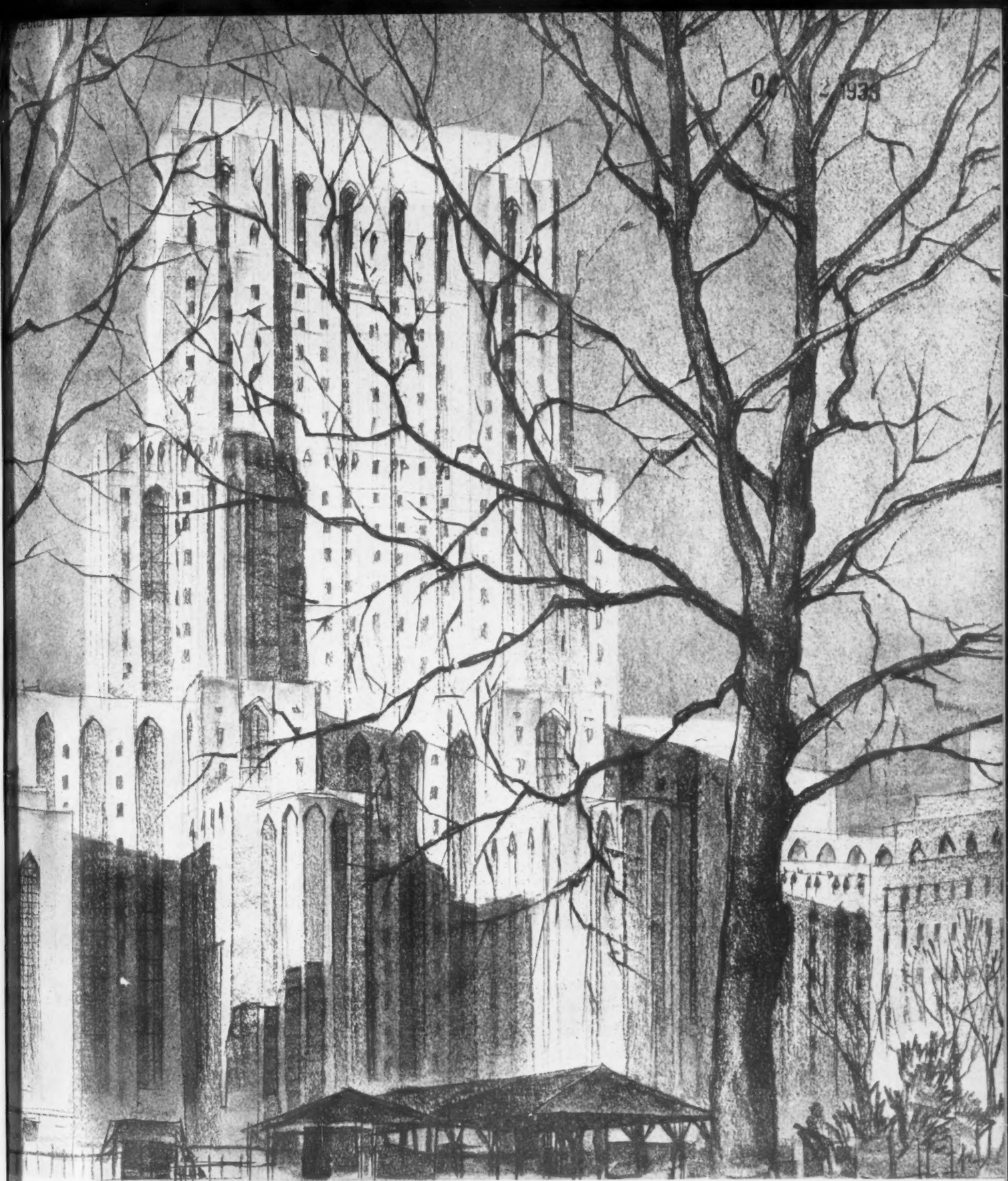


PENCIL POINTS

OCTOBER
1933

AN ILLUSTRATED JOURNAL for the DRAFTING ROOM

J&L JUNIOR BEAM FLOORS

STEEL CONSTRUCTION

JUNIOR BEAMS REST ON BOTTOM FLANGE OF MAIN CARRYING MEMBER —NO FABRICATION—
MAIN CARRYING MEMBER AND JUNIOR BEAMS REST ON FOUNDATION
MOVABLE STIRRUP HANGER TO SUPPORT ONE JUNIOR BEAM AT RIGHT ANGLES TO ANOTHER JUNIOR BEAM —NO FABRICATION—

without TECHNICAL RESTRICTIONS

The J & L Steel and Concrete Floor System offers the advantages of steel construction in the first floor of any residence or light-occupancy building without imposing any restriction on either architect or builder. No specialized experience or special equipment is necessary. This system is also applicable to upper floors when solid masonry walls or steel framing is used.

The concrete slab engages the top flanges of the beams, anchors the floor to the foundation and provides a continuous firestop. The simplicity of the system, ease of installation, economies effected, and the structural values added, have brought widespread acceptance of this rigid, shrink-proof, vermin-proof, fire-resistant floor.

A detailed description of J & L Junior Beam Floors will gladly be sent to you without obligation.

OTHER J & L CONSTRUCTION PRODUCTS

Steel Pipe — Bars for Concrete Reinforcement
Standard Structural Shapes
Light Weight Channels
Wire Nails — Steel Piling

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA
Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Los Angeles Memphis Milwaukee Minneapolis New Orleans New York Philadelphia Pittsburgh St. Louis San Francisco
Warehouses: CHICAGO CINCINNATI DETROIT MEMPHIS NEW ORLEANS PITTSBURGH
Canadian Representatives: JONES & LAUGHLIN STEEL PRODUCTS COMPANY, Pittsburgh, Pa., U. S. A., and Toronto, Ont., Canada

J&L STEEL

Pencil Points, published monthly by The Pencil Points Press, Inc., at 258 Atlantic St., Stamford, Conn. Publication office, Stamford, Conn. Editorial and Advertising Offices 330 West 42nd Street, New York, N. Y. Yearly subscription $3.00, single copies 35 cents. Entered as second class matter, March 10, 1930, at the Post Office, Stamford, Conn., under the Act of March 3, 1879. Volume XIV, No. 10. Dated October, 1933

An Open Letter to the President

September 21, 1933.

THE HONORABLE FRANKLIN DELANO ROOSEVELT
President of the United States
White House, Washington, D. C.

DEAR MR. PRESIDENT:—

It would be impertinent of us to attempt to instruct the President of the United States as to what he should or should not do. Yet, since the present emergency affects us all, from the top to the bottom of our social structure, we conceive it the privilege and duty of all citizens to present their ideas for consideration by the responsible executive. His, of course, is the right to adopt or reject the suggestions.

Public Works appear to be still lagging. Why? Is it not partly at least because you have not yet taken a firm and definite stand in favor of pushing this phase of the drive for recovery just as hard and rapidly as the industrial portion of the program? Since you, by virtue of your position, must know all the facts and theories pertaining to our economic plight, we, of the architectural profession and the building industry, are at a loss to understand why you do not exert the same leadership here that you have shown in connection with securing the adoption of N.R.A. codes.

We are alarmed to note that Public Works contracts actually let during August by the Federal Government totalled only one sixth of the awards for the same period last year. This does not indicate vigorous action. Especially when considered in conjunction with the dwindling amount of private construction does it seem laggardly. Can you not do something about it?

There is an interpretation of the present situation which leads inevitably, it seems to us, to the conclusion that future large expenditures by the Federal Government on public works are vital not only to the restoration but to the maintenance of economic balance. This interpretation has been developed by economists over a long period of years and is now being given wide currency in the periodical press and in public discussion. Your own utterances have indicated that your understanding of the crisis is closely allied to this line of thought, which, as applied to the immediate situation, runs as follows:

1. Economists seem largely agreed that no recovery is possible without greatly increased employment in the capital goods industries.

2. Private capital investment cannot be expected to expand rapidly while existing facilities are still operating far below capacity.

3. Even if large investments could be made in private industry the effect would be to aggravate the present overequipment and to increase the already intolerable burden of debt resting on industry.

4. Business and industry can utilize without overexpansion only a small injection of new capital plant. Any excess investment will create a danger of future collapse.

5. Federal expenditures for public works represent the only form of employment for the capital goods industries that is immediately available that does not add to the equipment or to the fixed charges of industry.

6. Improved automatic machine methods of manufacture, developed and adopted during years of depression to cut costs have made it impossible now to reemploy within several millions the number of industrial workers engaged in 1928. The maximum possible reemployment in industry under the N.R.A. codes cannot, therefore, either completely solve the unemployment problem or furnish the amount of mass buying power necessary to restore the consumers' goods industries.

7. Federal Public Works expenditures on a large scale can supply the missing links in the recovery chain by the following:

(a) Utilization of the capital goods industries as represented by the manufacturers of construction materials and equipment and by the other elements of the building industry without overloading the business world with superfluous equipment.

(b) Reemployment of millions of workers both directly and indirectly, thus adding to mass buying power for consumers' goods to any desired extent.

(c) If, as we believe should be the case, the works are to be paid for out of receipts from taxes laid on surplus income, a continuous and healthy redistribution of wealth can be accomplished. By surplus income we mean the portion of individual and corporate income that is not normally spent on consumption but is held for investment. If this money were to be invested today, or even tomorrow, in almost any industry you can name, aside from the brewing and distilling industry, it would either fail to earn the expected profit or would cause other and earlier capital investment in the same industry to become bankrupt. Excessive investment in already fully equipped industry was one of the principal causes of the depression.

(d) Incidentally, through Public Works, facilities could be furnished for the employment and culturally profitable use by the public of the increased leisure brought about by the shorter hours of employment now in effect. Every community in the land could be provided with many highly desirable public services, which would add to the real wealth of the nation and increase the standard of living for the average citizen.

Mr. President, the great building industry, which forms a sizeable fraction of the capital goods industries, is waiting for your leadership to save it, and with it we believe our country, from the slough of despond into which it has been sinking during the last few years. To you—who promised bold, persistent experimentation, implying thereby the readiness of a realist to look squarely at things as they are today, not as they used to be, and act—we are turning expectantly for the signal to begin the program full blast. You have the people behind you. If you show now the vision and courage of which we believe you are possessed, you will give the word to cut the red tape and set us going toward the era of plenty that is perfectly possible to achieve.

Yours most respectfully,

THE EDITORS OF PENCIL POINTS.

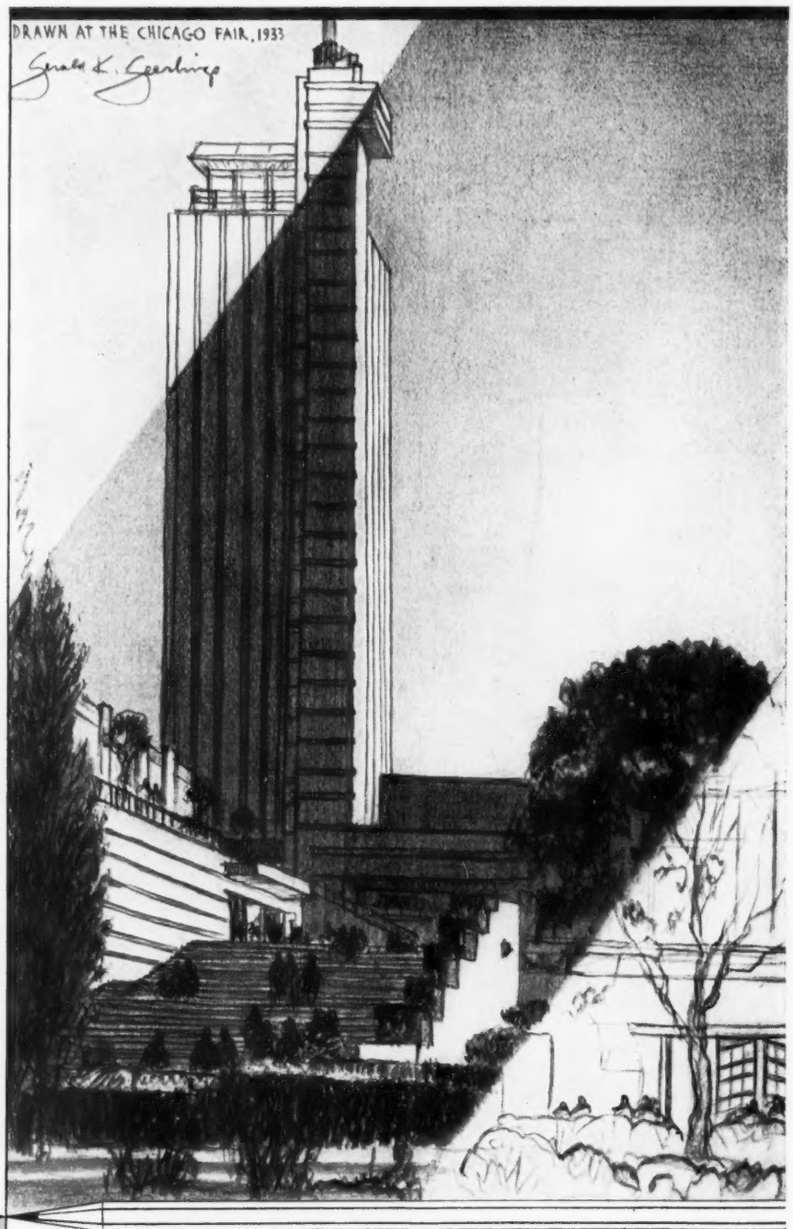
Pencil Points, published monthly by The Pencil Points Press, Inc., at 258 Atlantic St., Stamford, Conn. Publication office, Stamford, Conn. Editorial and Advertising Offices 330 West 42nd Street, New York, N. Y. Yearly subscription $3.00, single copies 35 cents. Entered as second class matter, March 10, 1930, at the Post Office, Stamford, Conn., under the Act of March 3, 1879. Volume XIV, No. 10. Dated October, 1933

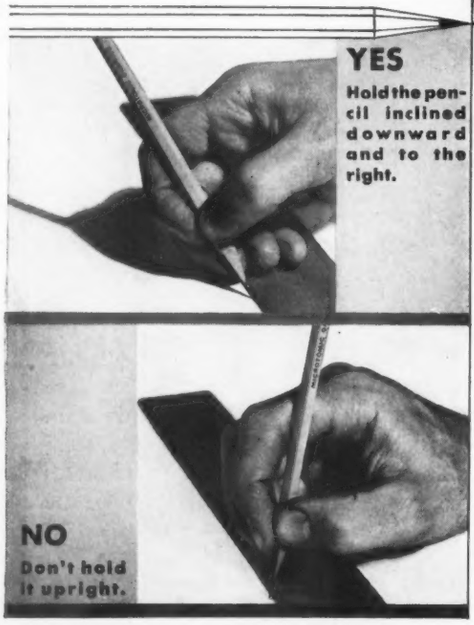
QUICK SKETCHES WITH DRAMATIC EFFECTS

TWO CORNERS BEG your help. Fill them in with a 5B or 6B Microtomic Van Dyke Pencil, and you will be pleasantly surprised how the drawing has been improved, and how easily smooth, wash-like tones can be obtained. The original was drawn by Gerald K. Geerlings at the Chicago Fair, exactly this size on white Bristol board, entirely with a B grade Microtomic Pencil. Mr. Geerlings says:

"The Hall of Science is probably more dramatic at sunset than at any other time during the day. Even in a quick sketch its plain surface should be so represented as to appear solid—not transparent. A time-tried method, which has been followed, is to do a line drawing of the main masses, fill in the areas which are to have flat tones (this automatically keeps the point sharp), then add details over the tone "washes". The tones will give a solidity not otherwise possible, and by arranging them to form an effective pattern of light and dark, you will quickly secure a dramatic, commanding effect."

FREE SAMPLES of any two degrees of the Microtomic Van Dyke Pencil are yours for the asking. Write to the Eberhard Faber Pencil Co., Dept. PP 10-33, 37 Greenpoint Ave., Brooklyn, N. Y.





LONG LIVE THE POINT

What the youngest draftsman usually knows and the oldest draftsman usually forgets, is shown by the two photographs to the left. When the pencil is being guided along any straight edge, and is held as in the upper illustration, being turned as it goes, the point will last remarkably longer than when held as shown below. Some draftsmen unconsciously spend as much time running their pencils over sandpaper blocks, as they do in making the pencil draw useful lines. How do you habitually hold your pencil?

—Gerald K. Geerlings

MICROTOMIC
VAN DYKE PENCIL
EBERHARD FABER

Made by the New Eberhard Faber Chemical Process, in 18 Consistently Accurate Degrees—7B Softest to 9H Hardest.

Russell F. Whitehead
Editor

Kenneth Reid
Managing Editor

October 1933

PENCIL POINTS

Vol. XIV — *Something for Everyone in the Architectural Profession* — No. 10

Cover Design
Cornell Medical Center
by Samuel Chamberlain

N.R.A. Code
Public Works
Philosophy of Architecture
Modern Design
General Culture
Practical Design

Design Sources

Drafting Technique and Design

Office Data

Personal and News

ARTICLES

The Draftsmen Organize . . . . . *Henry Sasch* 429
A Timely Problem . . . . . *Eugene Clute* 431
Architectural Heresies . . . . *Talbot F. Hamlin* 435
Four Modern Shop Fronts . . *Walter D. Teague* 437
Ripley's Recipes, 5 . . . . . *Hubert G. Ripley* 441
Why Not a Little Stair Standardization . *M. Markle Steen* 465

THE MONOGRAPH SERIES

Volume XIX, Number 5

New England Stairways . . . *Benjamin Graham* 445
Research and Measured Drawings by Frank Chouteau Brown

PLATES

WATER COLOR SKETCH . . . *Samuel Chamberlain* 428
PEN-AND-INK RENDERING—Houses . *Arthur C. Taylor* 444
CRAYON SKETCHES . . . . *Charles S. Schneider*
Chartres 461
Azay-le-Rideau 462
Angers 463
Domremy 464

DATA SHEETS—*Prepared by Don Graf*

Marble Wainscots 470
East Vertical Sundial 470
Surface Type Mail Chute 471
Dead Loads of Building Materials 471

"HERE, THERE, THIS, AND THAT"

Letters from Readers, News from the Field, etc. . . . 469

Readers' Comment
Items Required for Future Reference

Published Monthly by THE PENCIL POINTS PRESS, INC., *Stamford, Conn., U.S.A.*

Ralph Reinhold
President and Treasurer

Philip H. Hubbard
Vice President

L. F. Thompson
Vice President

EXECUTIVE AND EDITORIAL OFFICES
330 WEST 42nd STREET, NEW YORK, N. Y.

35 cents a copy. Yearly subscription $3.00, two years subscription $5.00, payable in advance, to the U. S. A., U. S. Possessions, Cuba and Mexico. Add $1.00 a year for postage for Foreign subscriptions. Canadian subscriptions 50 cents a year additional.

Remittances by International or American Express Money Orders or by Draft on a bank in the U. S. payable in United States funds.

Subscribers are requested to state profession or occupation.

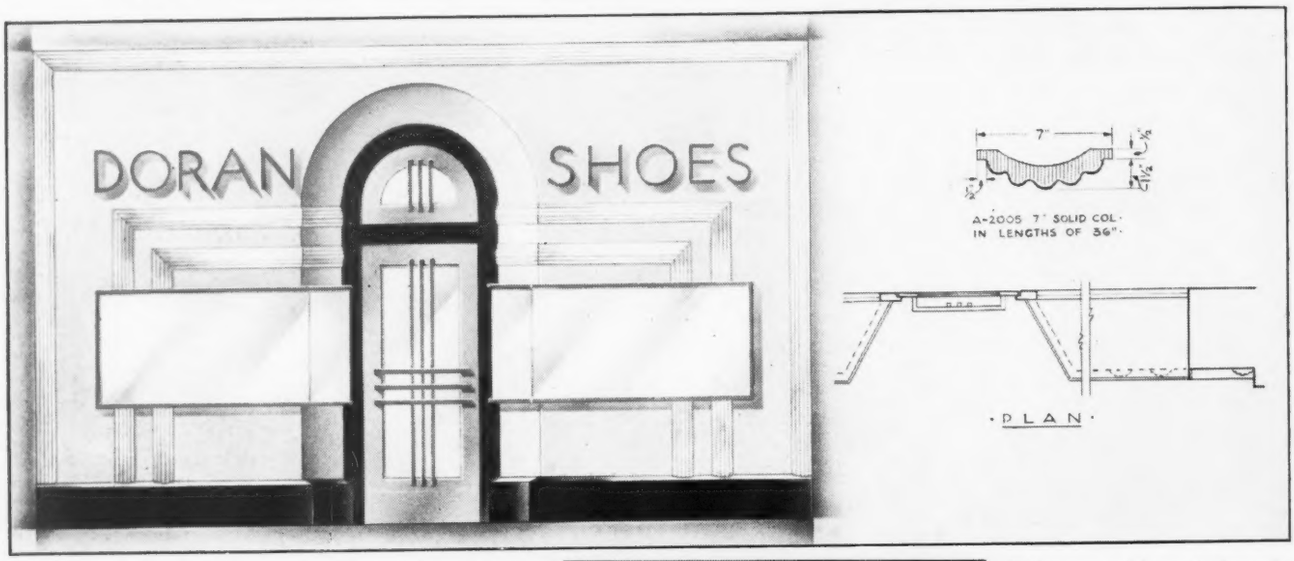
Changes of address must reach us before the 20th of the month to assure delivery of forthcoming issue. Be sure to give both old and new address.

To CONTRIBUTORS: Articles, drawings, photographs, etc., sent with a view to publication will be carefully considered, but the Publisher will not undertake responsibility for loss or damage.

Copyright, 1933, by Pencil Points Press, Inc. Trade Mark Registered. All rights reserved.

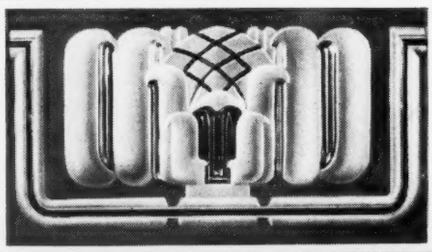
Pencil Points is indexed regularly in The Art Index.

Versatile STEUBEN GLASS *enlivens Modern Architecture*

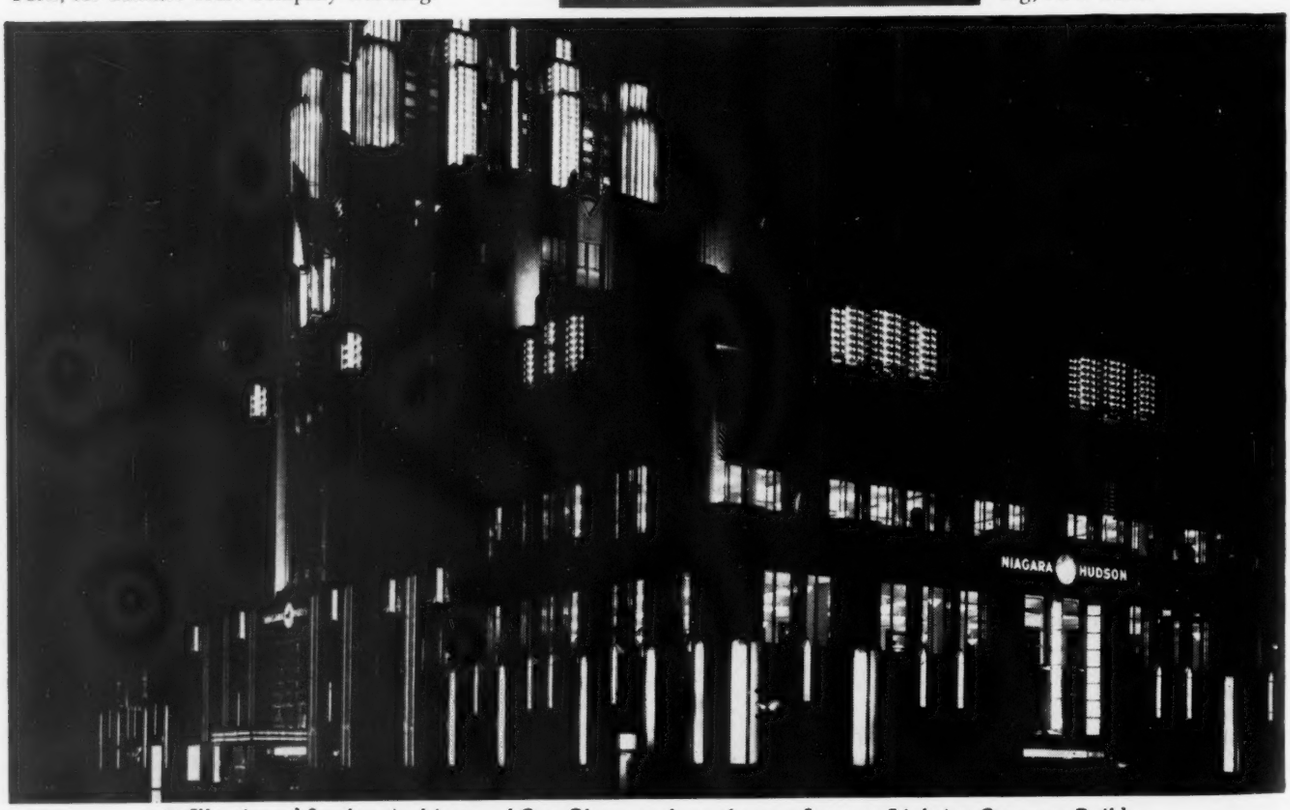


■ (*Above*) Design for a modern shoe shop-front by Walter Dorwin Teague of New York City. Illuminated Steuben Architectural Cast Glass is specified for the panels of this distinctive and unusual creation.

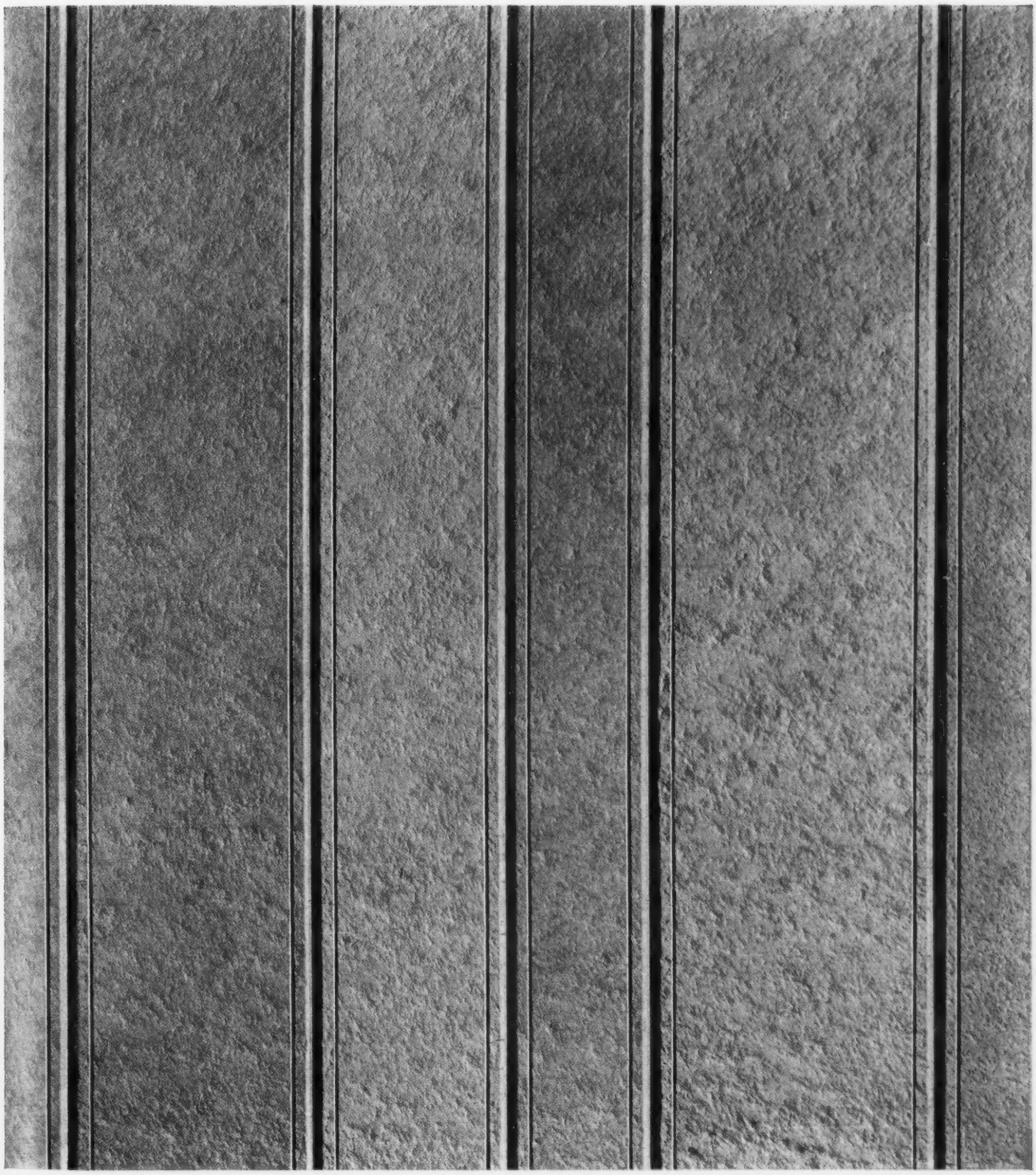
■ (*At right*) Steuben Architectural Glass in intaglio designed by Shreve, Lamb, & Harmon, Architects, New York, for Bankers Trust Company Building.



■ See our catalogue in Sweet's. For your own files, send for our brochure, "Sculptured Steuben Architectural Cast Glass," showing many standard and proprietary designs. Address Steuben Division of Corning Glass Works, Corning, New York.



■ Illuminated Steuben Architectural Cast Glass panels on the new Syracuse Lighting Company Building, at Syracuse, N. Y. Melvin L. King, Syracuse, Architect; Bley and Lyman, Buffalo, Consultants.



This is Nu-Wood Beaded Bevel-Lap Plank

WOOD CONVERSION COMPANY
CLOQUET, MINN.

Nu-Wood Bevel-Lap Plank is made in two types, beaded as shown above and plain bevel. It is available in uniform or random widths in the standard Nu-Wood color or variegated as illustrated.

It meets a real need for interesting and modern interiors for homes and all classes of commercial and public buildings.

Its color and texture make paint, paper, or other finishes unnecessary. In addition to its decorative value, it has high acoustical efficiency and provides effective insulation against the passage of heat. It meets three distinct needs at one moderate cost.

It is a Weyerhaeuser product, as are Balsam Wool, Nu-Wood, Bevel-Lap Tile, Nu-Wood Insulating Board and Insulating Lath . . . Our engineering department will be glad to give you information on any specific problem covering the use of insulation or Nu-Wood Bevel-Lap Plank.

PLACE DE LA HALLE, SENLIS

FROM A WATER COLOR BY SAMUEL CHAMBERLAIN

This very fresh sketch is perhaps typical of Chamberlain's later work with water color, which is not so familiar to the public as his etchings, lithographs, and other black and white drawings. It was done on a sheet of medium rough handmade French water color paper and measured in the original 13¼" x 19½". The subject was sketched in fairly completely with carbon pencil and the colors were applied in transparent washes.

PENCIL POINTS
(October, 1933)

PENCIL POINTS

Volume XIV October, 1933 Number 10

The Draftsmen Organize!

By Henry Sasch

Editor's Note:—*This article describes the first effective effort of which we have heard whereby the draftsmen are taking advantage of the opportunity offered under the N.I.R.A. to organize and bargain collectively to improve their position. The Architects' Code, drawn up by the Code Committee of the A.I.A., came up for hearings at Washington on September 7th, and up to the time of going to press it has not yet been finally approved by the N.R.A. In that Code the maximum hours of work were stated as forty and the minimum wage "for an employee who has had at least two years' experience" fifty cents an hour. This provision puts the architectural draftsman of two years' experience on about the same wage basis as a hod carrier employed on any public works project. We believe that before the Code is finally adopted this figure should be revised upwards by about 50%. We also agree with the author of this article that there is no reason why the Architects' Code should confine itself to stating minimum wages for the least experienced group of employees and that it would be to the advantage of all concerned to set minimum wages for the more skilled draftsman in the well recognized classes of juniors and seniors. We will welcome discussion of this subject pro and con by both architects and draftsmen and will devote whatever space is necessary for this purpose in subsequent issues. It should be understood that the proposed Federation is not to be affiliated with the A. F. of L.*

The National Recovery Act, which charges all industries to unite in codes of fair practice, also makes it mandatory for those industries to allow full and unimpeded sway to all employees to organize for the purpose of collective bargaining. This has brought out very forcefully the fact that there is practically no organization among the great mass of employees in the architectural profession, or within the ranks of any of the other technical professions, which could confer with any group of employers on questions of compensation or other working conditions.

Unfortunately, the N.R.A. requires only minimum wages and maximum hours of work to be stated in these various codes. Now, while it is true enough that a great deal of good will be done by raising the income of the least paid group of workers in the various industries, several very important factors having enormous bearing on fair competition immediately become obvious to any intelligent person:

1. That the group encompassed by the provisions of minimum wages is relatively a small proportion of the total number of wage earners of the nation, which number is variously estimated as between 40,000,000 and 48,000,000.
2. That in practically all industries and occupations the major element upon which competition is based, insofar as labor is concerned, is that group which is known as skilled and highly skilled labor in the industries, and the properly trained and long experienced men in the professions.
3. The obvious conclusion is, that as long as employers are only bound to observe the minimum wage scale of the least important element in their business, it will be impossible to create fair competition, if they are allowed to exploit the KEY element of employees at will, by taking advantage of the reduced and desperate circumstances of these skilled men and women, both in the labor as well as in the professional fields. Most of the professional people who have been cruelly buffeted about by this terrible depression, for from two to three years, would be forced by desperation and destitution to accept anything handed out to them, no matter how unfair it might be.

This lack of provision in the N.R.A. to demand that the compensation scale of ALL classes and levels of employees be definitely specified, to our way of thinking, nullifies and defeats the highly desirable and laudable purpose of this great advance step in human welfare, intelligent co-ordination and justice and fair dealing.

The technical men have been flatly left out of consideration in all codes. In some codes they have been classed as executives earning more than $35 per week, and thereby shunted out of any further consideration. Along with this, alarming reports have come out that some firms openly intend to take full advantage of this lack of provision in the codes.

Our organization was formed in the city of New York, composed entirely from the architectural, engineering, chemistry, and allied fields, for the purpose of protesting to the N.R.A. against this lack of consideration in the various codes, and to propose amendments to the various codes which will make it possible for technical employees to obtain a semblance of justice. With the first announcement of the formation of this organization and its scope, letters began pouring in from all parts of the country, indicating conclusively that this alarm and chagrin is deeply felt among all technical men throughout the country. Already, only

a few short weeks after its inception, the organization numbers well over 3,000 members, and nearly 100 provisional secretaries have been appointed in various cities as far west as California, for the purpose of organizing regional groups.

On the basis of such widespread desire for recognition, this organization took immediate initiative, and has sent, to date, three separate delegations to Washington. These delegations have appeared on August 28th, September 6th, and September 14th at the public hearings before the Deputy Administrator of the N.R.A., and have made formal protest, and submitted briefs of amendments to the Master Code for the Building Industry; the fourteen supplemental codes thereto, which include the Architects' Code; the Chemical Industry Code; the Pulp Paper Code; and several others, all of which involve technical men in greater or lesser number.

At the hearing on the Architects' Code which was presented by the A.I.A., the following address was delivered by the writer, as a member of the delegation representing this organization, and more especially as representing the architectural men.

Address by Henry Sasch Representing The Federation of Architects, Engineers, Chemists, and Technicians at the Hearing of the Architects' Code, September 7, 1933.

Mr. Administrator and Ladies and Gentlemen:

The Federation of Architects, Engineers, Chemists and Technicians is an economic organization of technical men, who are employed in all of the phases of the building industry as well as all the other industries of the nation.

The Federation is necessarily a new organization, brought into existence as a direct result of the National Industrial Recovery Act. Although there are numerous organizations of professional men throughout the country, these organizations are generally scientific in scope and seldom, if ever, concerned with economic questions.

However, due to the fact that all consideration of the technical men has been omitted in all the Codes so far presented or adopted, a spontaneous desire has sprung up among the technicians in all the professions throughout the country, to organize for the purpose of bringing to the attention of the administration, and to that of all the professions and industries, the importance of this great body of highly skilled men and women, and to request urgently that their problems and needs be very definitely and adequately covered in all Codes already presented and to be presented, and amendments made to those Codes which have already been signed by President Roosevelt.

At the present time we directly represent over three thousand (3000) technical employees organized in professional units. The amendments which we propose and which we request to have incorporated in the various Codes, have been compiled and debated by delegates from these various organizations and meet with their unanimous approval. In addition to this, voluntary applications for membership in this federation are reaching us from all parts of the country every day. To date we have established seventy (70) provisional secretaries throughout the country. Consequently, this organization feels that it is justified to claim national representation of technical men.

Gathered from reliable statistical sources, we find that there are, in round numbers, approximately one million men and women employed in technical capacities in the various professions and industries in this country. No one questions the great importance of the services of this vast army of highly trained and skilled technicians, yet comparatively few people realize that, if such a calamity were possible whereby all technicians were suddenly removed from the face of the earth, *all industry would stop almost instantly*. We hear many claims from various occupations and industries to being the backbone of the country, but we defy any and all to prove that they are more important vertebræ than we are in our multiple spined national backbone.

We find ourselves as technicians, economically speaking, hemmed in between organized labor and employer, without the articulateness of organized labor to demand recognition and economic needs satisfied, due to lack of organization along economic lines. We further find alarming instances wherein technicians are harshly imposed upon and brutally exploited, especially in some of the engineering professions, and particularly in the case of engineers in the employ of large public utility concerns.

It requires a long, gruelling stretch of training and work before the technical man acquires the necessary proficiency and ability he is called upon to give in the performance of his duties. Yet his compensation in the majority of cases has been and is ridiculously low as compared with his investment of time and energy in acquiring the necessary proficiency.

Speaking now specifically in connection with the A.I.A. Code and in the interests of the employee: We wish to go on record as acknowledging the fine amicable and pleasant professional relations that have prevailed in the past between the majority of the members of the American Institute of Architects and the rank and file of employees. We do not fear exploitation at the hands of the prominent architects, such as represented by the foremost architectural firms in the Metropolitan Zone of New York. These men have treated us fairly, and we have no reason to believe that they will not do so in the future. However, there are certain definite facts which must be taken into consideration.

1. The majority of the practicing architects, or that is to say those who employ technicians, *do not belong to the A.I.A.*
2. The greater majority of these non A.I.A. architects do not and will not abide by the high standards of ethics advocated by and practiced by the members of the A.I.A.
3. These non A.I.A. members of the Architectural profession employ between sixty and seventy per cent of the architectural men and engineers in the building industry.

We have specific information in our hands to the effect that there is a concerted movement afoot among the non A.I.A. architects to take full advantage of the shortage of work and thereby brutally to exploit the employees, offering such degradingly low compensation as would be sniffed at by domestic servants.

We recognize the fact that the A.I.A. in drawing up the Code of fair practice has taken the text of the National Industrial Recovery Act literally as regards minimum wages and maximum hours. We find no reference in the National Industrial Recovery Act, however, preventing consideration of the higher level of compensation.

We, therefore, protest the submitted A.I.A. Code and request the A.I.A. Code Committee to revise their Code of fair practice in such a way as to prevent such degrading

(Continued on page 468)

A Timely Problem

The Sports Building as a Public Works Possibility

By Eugene Clute

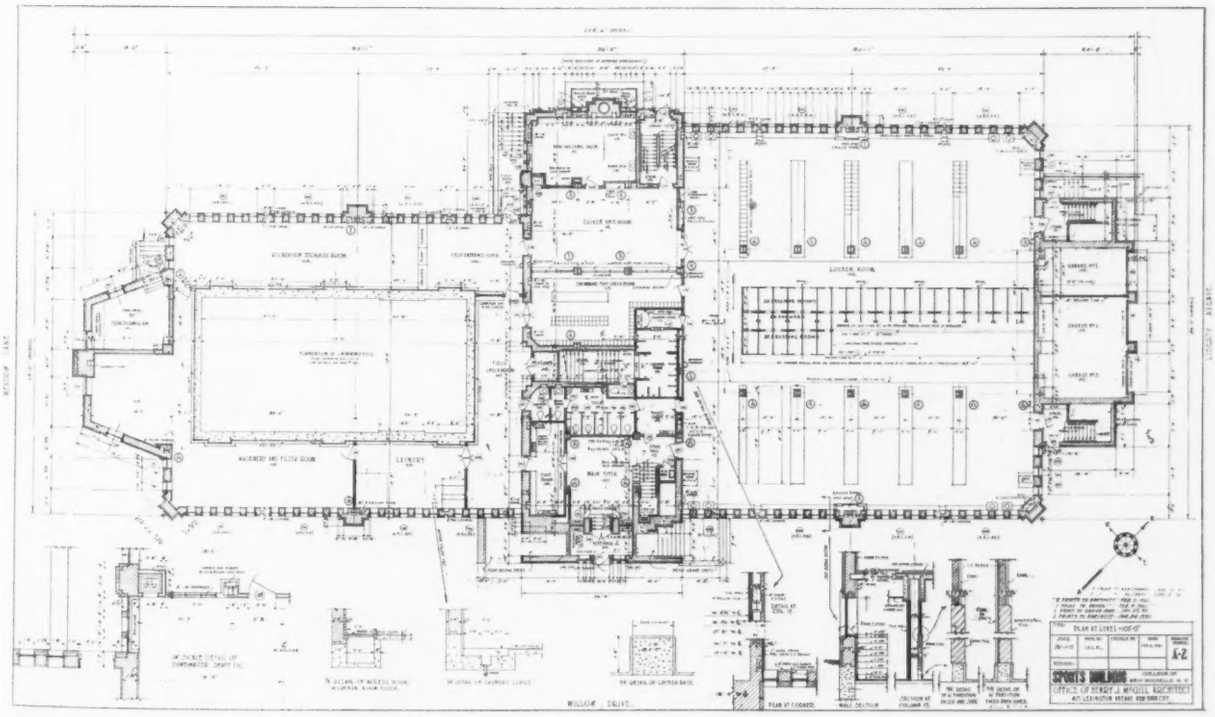
The public works program, together with the existing need for community buildings in all parts of the country, should bring about an unprecedented amount of such construction in the very near future, and the coming decentralization of industry, with the consequent building of new towns and the revitalization of many older communities, may be expected to add to this activity.

Among the various sorts of buildings that are most "needful and in the public interest" are those which will provide facilities for healthful recreation and social gatherings. Comparatively few towns now have these centers of community life, which can do so much toward promoting good citizenship, industrial efficiency, and the happiness of the people. With the shorter working week and the improved economic condition of the people generally, which the present regulation of industry and other measures are designed to bring about, the recreation center, or sports building, will be a community necessity. It will pay for itself in the same way that the public schools do—indirectly but many times over.

In seeking the best models for such buildings, we must turn to the club houses built for those whose means and leisure have permitted them to enjoy these privileges and to the buildings of societies and educational institutions. It is here that we find the most advanced planning, construction, and equipment.

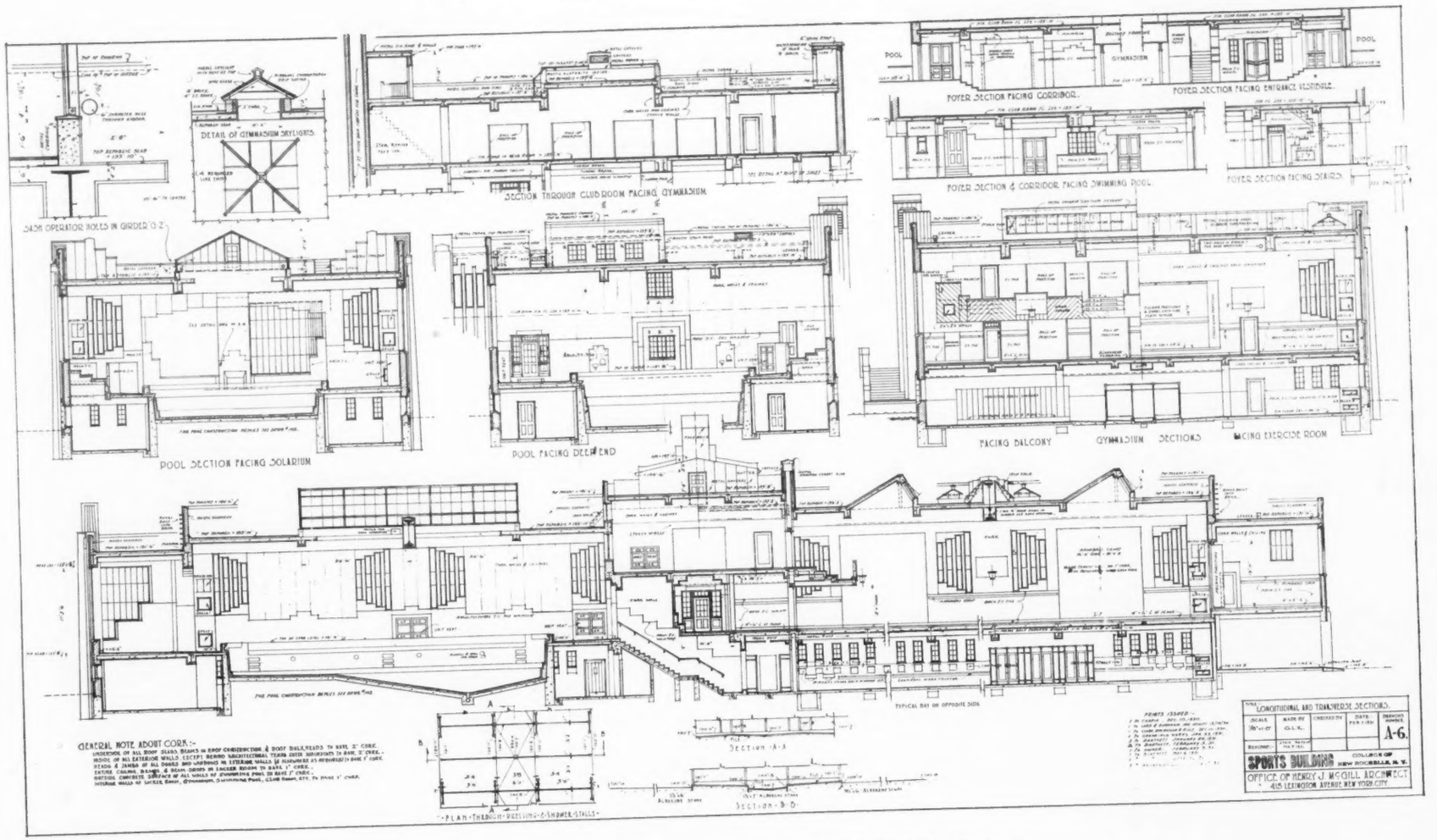
There has been completed, recently, a building that affords a wealth of suggestions adaptable to the solution of this problem, the Sports Building of the College of New Rochelle, at New Rochelle, N. Y., of which the Office of Henry J. McGill was the architect. It has been designed for economy of construction, of operation, and of maintenance—as well as to meet the practical requirements, which closely approximate those for a community building—and it has a fresh and very pleasing architectural character.

As will be seen by reference to the working drawings reproduced herewith, it consists mainly of a swimming pool and a gymnasium which is equipped for basketball and handball, as well as for exercises, and that can be used as an auditorium, since it has a stage and a balcony; also for dances or other social gatherings. There are also the necessary offices, locker room, etc., and there is a room readily accessible from the outside for checking the equipment used in field



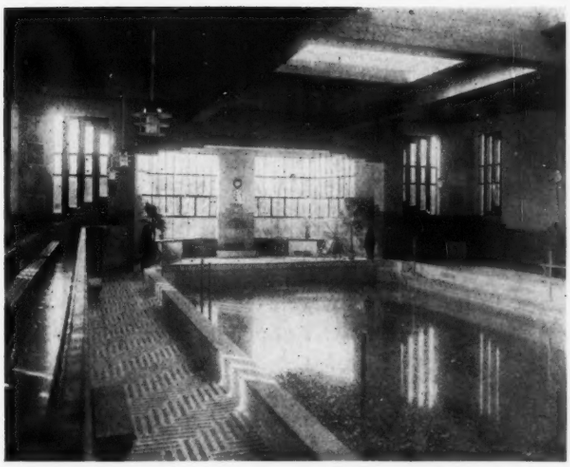
PLAN OF SPORTS BUILDING, COLLEGE OF NEW ROCHELLE, N. Y.

OFFICE OF HENRY J. MC GILL, ARCHITECT


DETAIL OF GYMNASIUM SKYLIGHTS
SECTION THROUGH CLUB ROOM FACING GYMNASIUM
FOYER SECTION FACING CORRIDOR
FOYER SECTION FACING ENTRANCE VESTIBULE
FOYER SECTION & CORRIDOR FACING SWIMMING POOL
FOYER SECTION FACING STAIRS
DOOR OPERATOR BOLTS IN GIRDER
POOL SECTION FACING SOLARIUM
POOL FACING DEEP END
FACING BALCONY
GYMNASIUM SECTIONS
FACING EXERCISE ROOM
TYPICAL BAY ON OPPOSITE SIDE
GENERAL NOTE ABOUT CORK:-
SECTION A-A
SECTION B-B
PLAN THROUGH DRESSING & SHOWER STALLS
LONGITUDINAL AND TRANSVERSE SECTIONS
SPORTS BUILDING COLLEGE OF NEW ROCHELLE, N. Y.
OFFICE OF HENRY J. MCGILL, ARCHITECT
415 LEXINGTON AVENUE, NEW YORK CITY
A-6.

SECTIONS, SPORTS BUILDING, COLLEGE OF NEW ROCHELLE, N. Y.

OFFICE OF HENRY J. MC GILL, ARCHITECT



INTERIOR OF SWIMMING POOL

SPORTS BUILDING, COLLEGE OF NEW ROCHELLE

Office of Henry J. McGill, Architect

sports. All of this is arranged very conveniently and compactly.

The longitudinal section shows how the showers, dressing booths, lockers, etc., serving both the swimming pool and the gymnasium, have been accommodated under the latter room in a high basement story that is almost entirely above grade. A broad stairway leads up to the natatorium. The pool itself, the necessary machinery and the laundry have been placed at the same basement level as the locker room. This brings the floor of the gymnasium and the natatorium on a level, one story above the ground, with the entrance hall and the director's office between them. The latter commands a view of both the swimming pool and the gymnasium, through glass partitions. Beneath the hall are a lower level entrance, the general shower room, toilet room and other utilities, together with a hairdressing salon which was intended to be rented out to a local hair-dressing expert (since this building is at a college for girls), though facilities for hair drying are provided in the locker room.

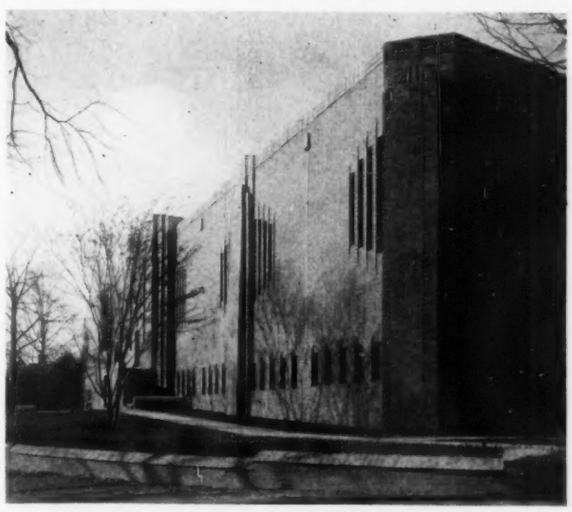
At the end of the natatorium, opposite to the entrance, is a solarium in the form of a large bay window facing the south. It has a fireplace. In the center of the ceiling over the pool is a large rectangular opening into a glass enclosure above the roof. For economy, a greenhouse of stock design was used for this feature. The flood of light from this source makes the natatorium bright and cheerful, and it overcomes any glare from the solarium which might otherwise produce unequal lighting effects upon the surface of the water, which would be dangerously deceptive to divers. In order to admit additional light and at the same time to avoid the production of dark-and-light areas upon the water, windows have been placed in the side walls in the form of narrow vertical slits, which prevent the direct sunlight from entering. These slits have been arranged in a decorative design that serves to ornament both the interior and the exterior, while the brick mullions between them tie the windows into the exterior wall.

The ceiling and interior walls of the natatorium are covered with cork above an architectural terra cotta tile wainscot. This cork is in sheets 2 inches thick, with beveled edges that produce a decorative effect, while they obviate the necessity for a perfectly true wall that would exist if a plain surface were attempted. Cork has been used here to prevent any annoying drip of condensation from the ceiling and condensation on the walls, also because it deadens the sounds which tend to make a swimming pool so noisy and as an aid in maintaining the relatively high temperature needed in a natatorium. Then, too, this material in its natural condition has an agreeably warm and very pleasant appearance.

All lighting fixtures have been kept along the sides; there are none over the pool, so that in case of breakage there will not be broken glass to remove from the pool—a difficult matter. There is a subaqueous lighting installation consisting of water-tight units set in the walls of the pool below the water level. There is a red warning light over the single entrance to the natatorium which shows when the pool is drained, to prevent anyone from heedlessly diving into the empty pool. The water in the pool is purified by ozonation.

The gymnasium has north light from two sawtooth skylights and there are mullion windows in the side walls like those in the natatorium. The ceiling and walls here also are lined with cork, for warmth, sound deadening and appearance. The wall areas used in playing handball (16 feet wide x 18 feet high) are of Keene cement on reinforced wire lath over 1 inch of cork. There is a terra cotta tile wainscot. The ceiling is 20 feet high.

At the end of the gymnasium, opposite to the entrance hall, is a room that is used for corrective exercises but that can be converted into a stage by pushing back the folding partition when it is desired to use the gymnasium as an auditorium. Across the rear of the gymnasium is a balcony, 8 feet above the floor in the clear. By means of a folding partition, a room



A VIEW OF THE EXTERIOR

SPORTS BUILDING, COLLEGE OF NEW ROCHELLE

Office of Henry J. McGill, Architect

directly back of the balcony can be added to its capacity. Ordinarily this room, which is over the entrance hall and director's office, is used by the alumnæ for meetings and social gatherings.

Space has been saved and unusual convenience secured by the simplification and thorough study of the arrangement of the showers and dressing space under the gymnasium. There is a row of shower stalls down the center of the room, with a row of dressing rooms or booths adjoining at either side. The lockers extend at right angles to these, between the dressing booths and the side walls. Along each of these walls is a continuous linoleum-surfaced dressing table with mirrors back of it on the wall, one under each of the windows. Hair drying equipment is spaced at intervals, two machines on each side of the room. Everyone entering the pool must pass through a curtain of water spray before reaching the stairway, and there is only this one entrance, to insure discipline and control. A different arrangement of these facilities will be required, of course, in a community building, which will be used by men, women and children.

Several unusual structural features have been made to contribute to the interest of the design besides being of practical value. There is a truss across the center of the natatorium and a similar truss across the gymnasium. Both have been allowed to project above the roof, in suitable housings, intead of below, with a consequent saving of masonry and the production of practically flat ceilings. These trusses, the saw-tooth skylights over the gymnasium and the glass structure over the pool are all concealed by a high parapet. The structural steel columns that carry the load of these trusses are prevented from encroaching upon the interior space and from breaking the interior wall surfaces by being permitted to project beyond the exterior surface of the walls, where they are enclosed in buttresses that express their function. There has been practically no excavation excepting what was necessary to carry the footings below frost, an economy anywhere, but especially at this site which is upon rock.

The general mass of the building is effective because one of its dimensions is dominant, its length, and the proportions are well studied. The entrance is emphasized by the central feature, and the whole treatment is sufficiently monumental to have the requisite dignity. The walls are faced with brick of a warm brownish buff color, grading lighter towards the top of the building, and the cut stone trim tones in with this color. Attractiveness, practical usefulness and economy have been secured to an unusual degree through directness, simplicity and architectural sense.

TREE STUDY—PENCIL SKETCH BY DAVID DAVIS

Architectural Heresies

By Talbot Faulkner Hamlin, A. I. A.

Form and Function

It is current orthodoxy that in architecture form follows function. But equally—no, even more—if the form be great enough, function will follow and mold itself to the form. So it was with the Greek theatre, so it is in the modern theatre, so in the development of religious ritual, so in the Roman thermæ; so it is in any well designed house where life is lived richly.

* * * *

Architecture and Good Building

To claim that an architect's first duty is to build well is like saying that a poet's first duty is to form the alphabet well. The architect's first duty is to create for the enrichment of the æsthetic life of generations. The architect can hire others to build well, as the poet may hire an amanuensis.

* * * *

Richness Today

Richness of effect and architectural beauty are not incompatible, even today in a machine age.

* * * *

Architecture and Economics

Usefulness in a building is good, economy in a building may be necessary; yet how many cheap and useful buildings would not mankind exchange for a Parthenon?

* * * *

Beauty and Use

It has been said that beauty in building is merely a rationalization of usefulness and economy. I say, on the contrary, that claims for usefulness and economy in a building are merely sops to our Puritan industrialism in order that beauty may be created.

* * * *

Architecture and the Styles, I

The use of, or failure to use, forms from past styles has nothing to do with æsthetic content. Novelty and beauty can no more be equated than antiquity and beauty. The first man who learned to whistle through his teeth may have felt he was enriching the art of music.

* * * *

Architecture and the Styles, II

On the other hand, merely to copy can no more produce a living art of architecture than the same method can produce a great literature.

* * * *

Architecture and Adequacy

To have created a competent and useful building is to have enriched a landlord; to have created a beautiful one is to have enriched mankind.

Cheapness in Building

No great architecture has ever been founded on cheapness—not even when cheapness has been exalted by calling it economy.

* * * *

Efficiency in Building

No great architecture has ever been founded on mere usefulness. Men have always built buildings as serviceable as possible, but only occasionally have they achieved a noble building art. The late Victorian brown stone house may be more comfortable to live in, more serviceable, than the Colonial farm house. Is it for that reason greater architecture?

* * * *

Architecture and the Ideal of the Minimum

The ideal of using the minimum of material and labor in a modern building has nothing to do with the art of architecture. As if Debussy or Ravel should be condemned for using all the tonal richness of a full orchestra.

* * * *

Buildings and People

Buildings, like people, live a double life. One life is the economic life—in people, earning a living, buying and selling, and contributing to the economic well-being of the world; in buildings, their costs, earnings, and economic usefulness. The other life, in people, is the life of the imagination and the emotions, of love and friendship, of social contracts, of religious ideals, of dreams. In buildings the same life is determined by their æsthetic effect upon those who live in them or observe them. And just as we say that only those people who have a highly developed life of the latter type "have personality," so we may equally claim that only those buildings which are rich in æsthetic content are "works of architecture." In other words, a building's æsthetic quality constitutes its personality.

* * * *

Nets to Catch the Wind

Much of the dialectic surrounding the criticism of modern architecture is merely a smoke screen to hide the real facts of the case. Thus, to discuss "economy," "honesty," "truth to the present" as though they were infallible rules for the discovery (or the creation) of beauty is like discussing happiness or the lack of it in algebraic terms. There is but one criterion of architectural greatness—do we, and will our children's children, receive the same æsthetic excitement out of

the buildings we build that we do from Parthenon, Pantheon, or Chartres? If so, we have built great architecture.

* * * *

Architecture and Machines

Let us make no mistake: machines of themselves will not make architecture. We can use as many elevators, as many miles of pipe or wire as we please and surround them with acres of plate glass and sheet metal and plastics. We may be fashionable as the Rue de la Paix, and efficient as a turbine. Yet, unless the building develops a life in and by itself—a life as a thing of beauty, entirely distinct from, though not contradicting, its economic use—it is an insult to architecture to assert it is a work of that severe art. Every work of architecture must, then, be a "monument," first and foremost, whatever its obvious or economic use.

* * * *

Architecture and Necessity

It is not the necessary which creates art in a building; it is the surplus—the more-than-enough—if only of brains.

* * * *

Architecture and Fame

The Parthenon does not live because it was a good temple, nor the Thermæ of Caracalla because they formed an efficient bathing establishment, nor Chartres because it was an economical church, nor Monticello because it was a pleasant house. Any life they have today is merely because they are not machines but works of art. *Verbum sap.*

* * * *

Architecture and Time

A machine lives in time, but architecture is timeless.

* * * *

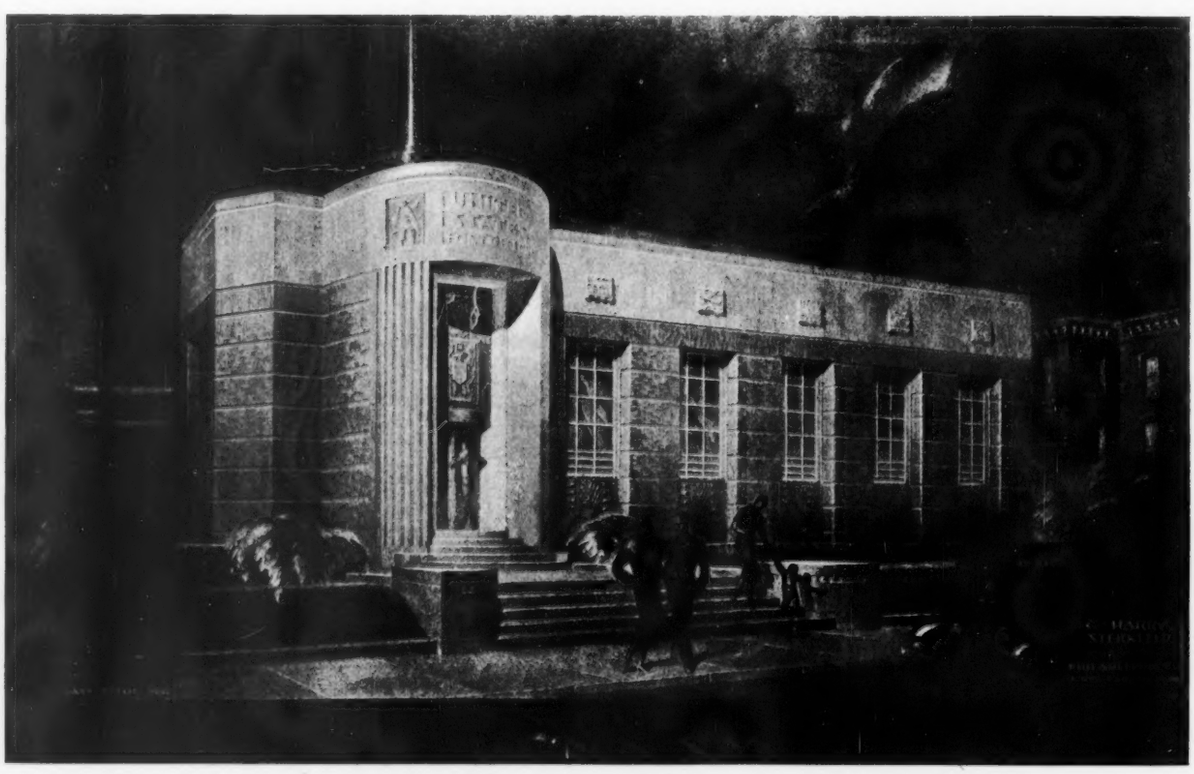
Great Architecture and a Sense of Volume

It is often considered a mark of great modern architecture to have expressed, by means of steel, concrete, and glass, a sense of volume rather than of mass. But there are ugly volumes and beautiful volumes, just as there are ugly masses and beautiful masses, ugly Gothic and beautiful Gothic. The mere fact of expressing volume no more creates great architecture than great literature can be produced by the mere use of such words as "contacted," "dyne," and "erg." To create a new language is not to write great poems.

* * * *

Art and Ornament

Remove the ornament—the verse and the rhetoric—from Shakespeare, and what is left? A series of more or less melodramatic stories—the banalities of "Lamb's Tales." And it is the same with most great architecture.



UNITED STATES POST OFFICE AT MILTON, PENNSYLVANIA

HARRY STERNFELD, ARCHITECT—J. ROY CARROLL, JR., ASSOCIATE

From a rendering by John Stewart Detlie

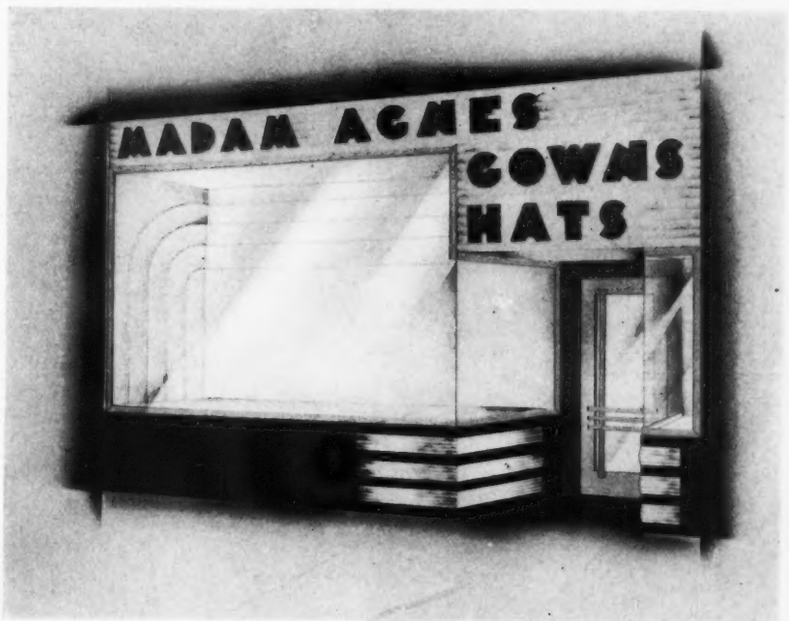
Four Modern Shop Fronts

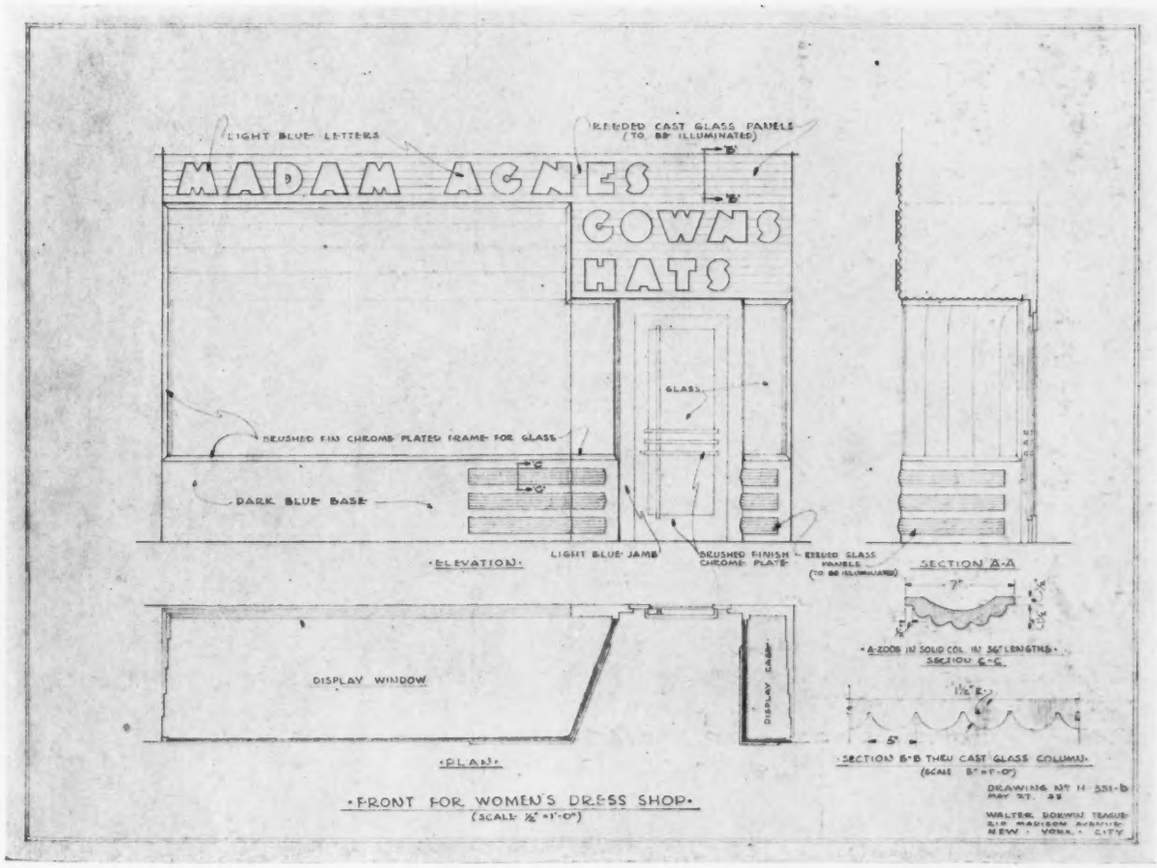
Designed by Walter Dorwin Teague

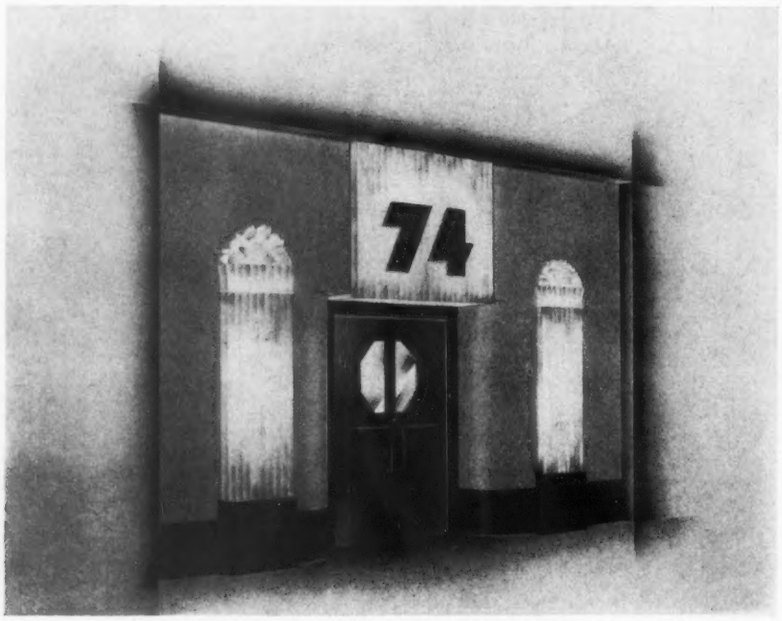
Editor's Note:—*Mr. Teague has, in these shop front designs, demonstrated his interest in modern design as the outgrowth of the use of modern materials. The designs may be suggestive to architects who have similar problems.*

A MODISTE'S SHOP

The modiste's shop shown on this page has a color scheme of blue. The base is dark blue and the inscription is in light blue letters against reeded cast glass panels, which are illuminated from behind. There are also some reeded cast glass panels inserted in the base near the entrance. The doors and the frame for the plate glass window are of brushed finish chrome plate, and the entrance door has a light blue jamb.

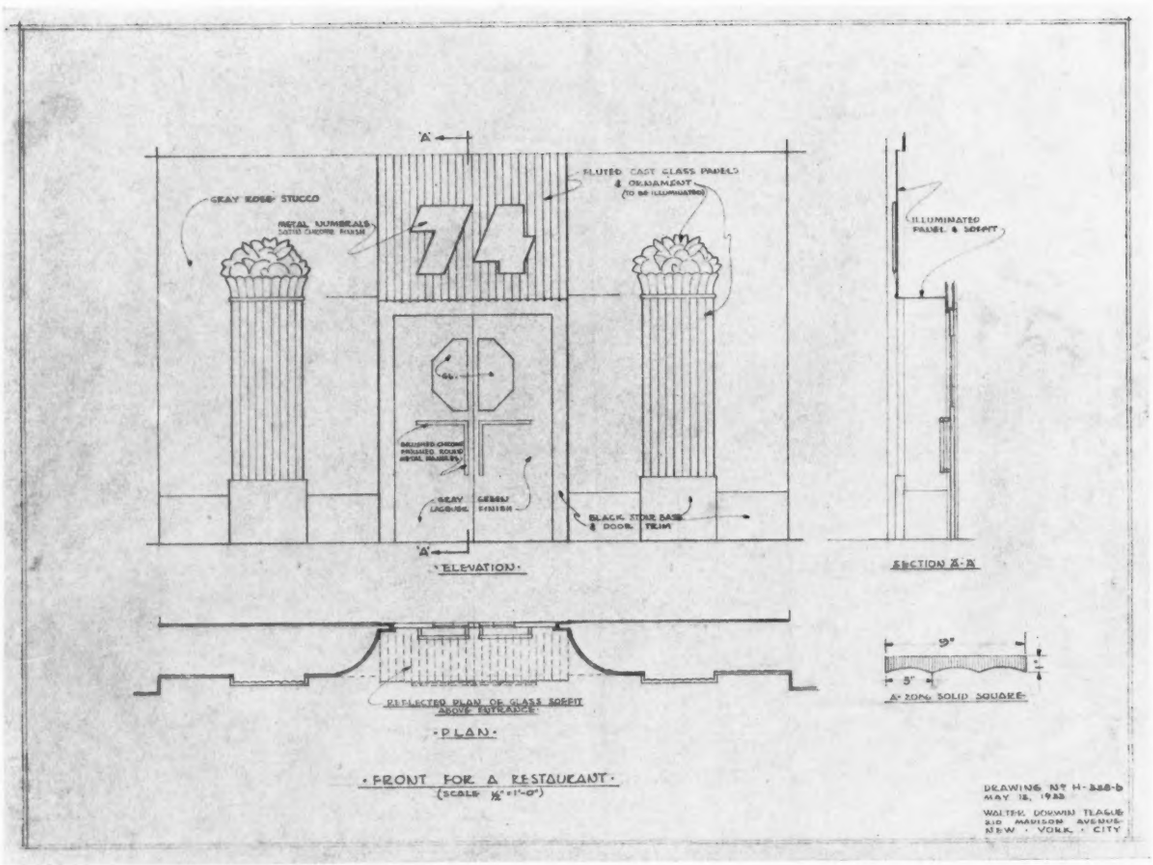






A SMALL RESTAURANT

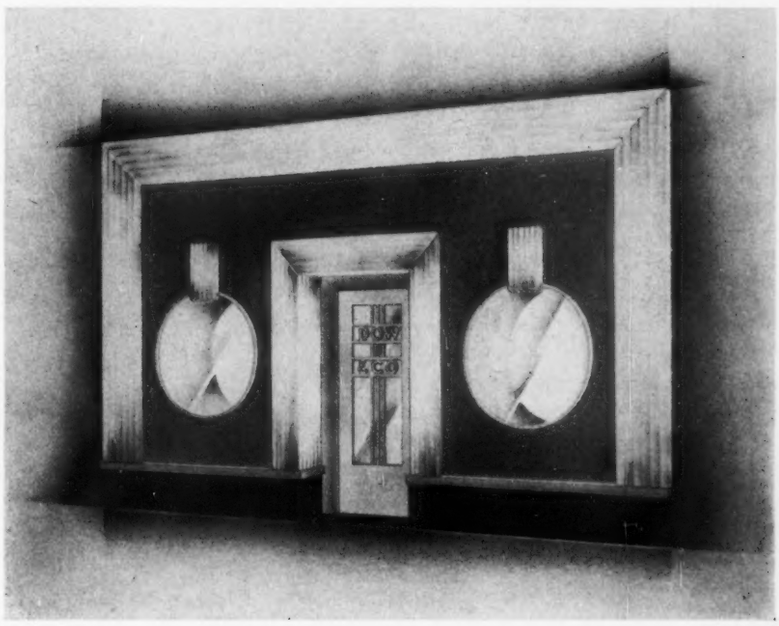
The façade of this attractive shop is of gray and rose stucco, set off with a black stone base and door trim. The pilaster-like ornaments on either side of the door and the panel above are of fluted cast glass. As in the other shops shown, the cast glass is to be illuminated from behind, preferably with neon lights. The door is finished in gray-green lacquer with brushed chrome plated bar handles of simple design.

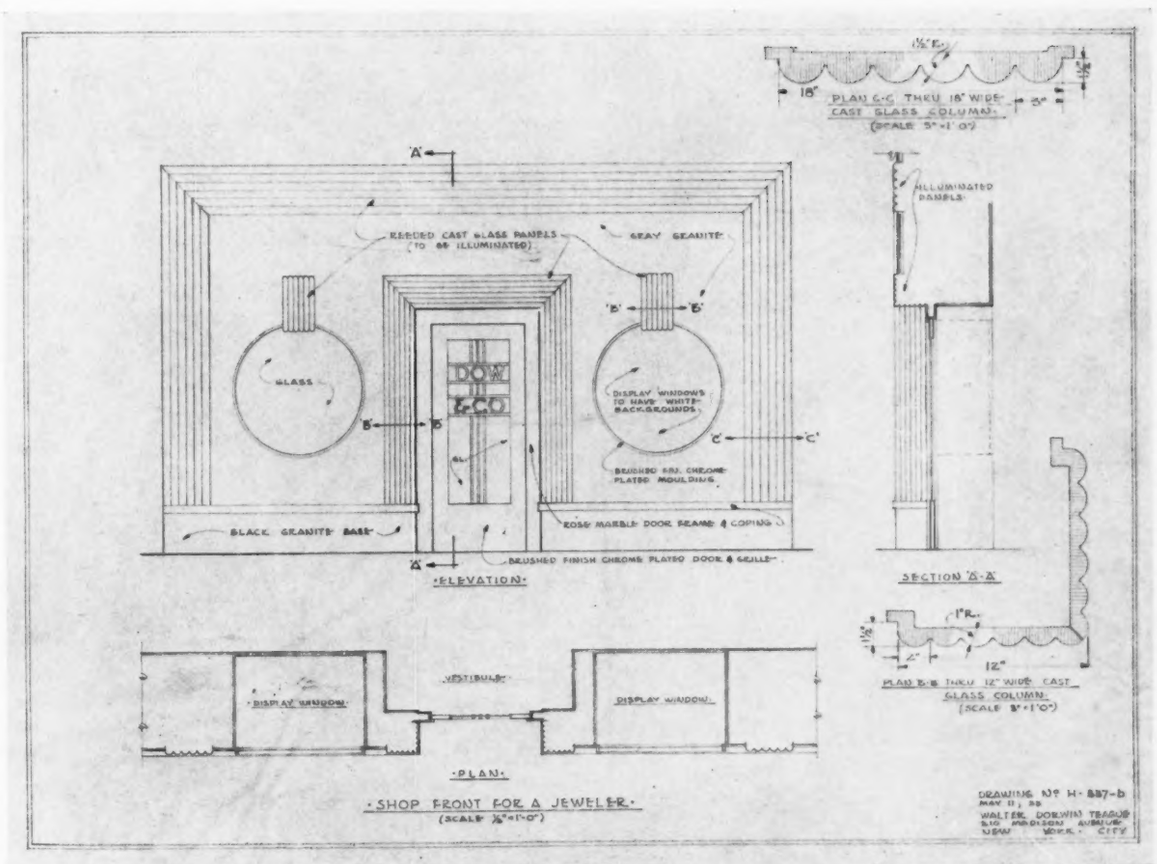


DESIGN BY WALTER DORWIN TEAGUE FOR THE FRONT OF A SMALL RESTAURANT

A JEWELER'S SHOP

This unusual shop front has a façade of gray granite surrounded with a band of reeded cast glass built up of stock units and a black granite base. The door with its grille and the moulding around the display windows are of brushed finish chrome plated metal. The door frame and the coping which tops the base are of rose marble. Illumination from behind the cast glass bands enlivens the design at night in a dignified way.

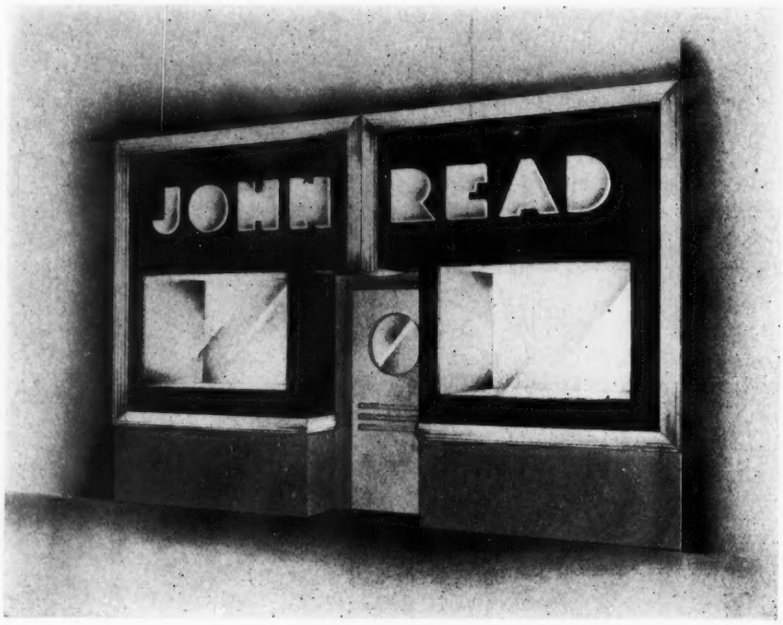


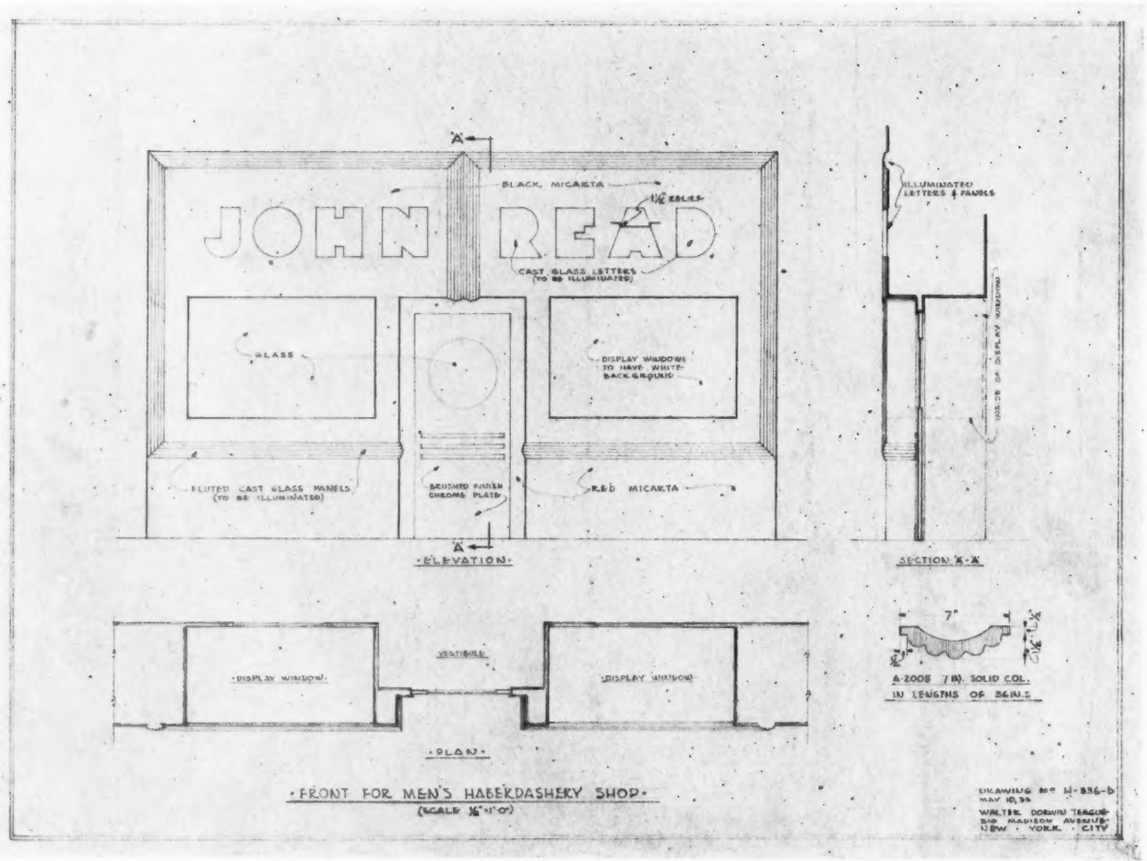


DESIGN BY WALTER DORWIN TEAGUE FOR THE FRONT OF A JEWELER'S SHOP

A SMALL HABERDASHERY

A distinctive type of front of a small haberdasher's shop has here been treated with a strong color scheme of red, white, and black. The base, which is surfaced with a laminated phenolic resin material, is red, with the same material in black above. The show windows have a white background and the name of the establishment is in cast glass letters, which are illuminated from behind, as is the enframing band of fluted cast glass of stock pattern. The door, as in the other examples, is of brushed finish chrome plate, and the jamb is red.





DESIGN BY WALTER DORWIN TEAGUE FOR THE FRONT OF A HABERDASHER'S SHOP

Ripley's Recipes

By Hubert G. Ripley, F.A.I.A.

No need of Moorish archer's craft
To guard the pure and stainless liver;
He wants not, Fascus, poison'd shaft
To store his quiver—
Hor. Car. 1, XXII, Conington.

V—The Bring-You-To

One of the hardest struggles the architect has to face (and it is doubtless equally true in other crafts and professions) is the constant fight to maintain his standards. We all know what those standards are, though self-interest at times obscures our vision. It is the same Sisyphean labor in Gastronomy. The vast majority of the American people arise in the morning, take their setting-up exercises, perform their ablutions and clothe themselves with meticulous care—then, feeling they have done their noble duty, gobble hastily a varied assortment of strange foods and dash madly for the 7:52 or the 8:26. Or, maybe, they climb into their car and "step on it" in order to arrive at the office, or wherever they are bound, as early as possible. This punctuality is supposed to set a good example to others, and we would be the last to decry the admirable traits of the stern and rockbound Puritanical tradition, but even a good thing can be, and often is, overdone. Let us not mistake premises for conclusions. When the noon-hour arrives, most of us are prone to dash out with the crowd, sit on a stool (eighteen inches C. to C.), and swallow feverishly some nondescript dish that's been kept hot on one of Duparquet Huot et Moneuse Cie's steam tables. (I often wonder what dear old Papa Duparquet would say if he knew to what uses his *bains marie* were put. He must have been a sweet old old gentleman with white mutton-chop whiskers, well-rounded abdomen, and a kindly word and pat on the head for rosy-cheeked little boys and girls.)

This feverish pursuit of the shadow for the substance is all very upsetting. Even the humble wheelwrights, cordwainers, and paviors that worked on the Parthenon led no such hectic existence as this. Due to the exigencies of the climate, they arose very early, often before dawn, and ate their simple meal of cheese and butter and bread and a honey cake, washed down with a flagon of wine under the grape arbor in the courtyard while Phœbus was still harnessing his chariot. After a stimulating morning spent in marble cutting, erecting gin poles, and cording a few root triangles and whorling squares, there came the long rest hour at noontime. While dozing in the shade of the plane tree listening to the lazy droning of the bees, Kallicrates and Ictinos and Metagenes, of the ward of Xypete, and Xenocles of Cholargus inspected the morning's work, drawing up their daily report to Pheidias. Plutarch, in his life of Pericles (translated from the original Greek with notes critical and historical by John Langhorne, D.D., and William Langhorne, A.M., new edition with corrections and additions, by the Rev. Francis Wrangham, M.A.F.R.S., New York: published by Samuel Campbell and Son; Evert Duyckinck; George Long; Collins and Co.; W. B. S. Gould; and R. and W. E. Bartow: 1822), paints a charming picture of the rebuilding of the Acropolis. He says: "We have the more reason to wonder, that the structures raised by Pericles should be built so quickly, and yet built for ages: for as each of them, when finished, had the venerable air of antiquity; so, even now, they retain the strength and freshness of a modern building. [Note that when this was written, the buildings on the Acropolis were already some 500 years old.] A bloom is diffused over them, which preserves their aspect untarnished by time, as if they were animated with a spirit of unfading youth and perpetual elegance." Furtwrangler (I think it was Furtwrangler) says this "bloom" was obtained by washing the Parian marble with saffron and milk!

The Parthenon was but nine years in building, and the sum of 1000 talents was expended on the work—an enormous amount for that time, the temple of the Olympian Jove costing but 350 talents. As a talent was the equivalent of £193:15:0, in the year 1822, you may figure it out easily on a slide rule, multiplying by the coefficient of 1822 is to 1933 to obtain the equivalent at present-day prices.

The Propylæa, or great Entrance Hall to the Acropolis, which Professor Dorpfeld ranks as among the chief glories of Athens, took but five years to build. Mnesicles was the architect and his salary, according to Dr. F. B. Jevons, was not over two drachmas a day. As a drachma equals 19½ cents, it seems that the quantity of precious metals in circulation at that time must have been considerably less than it is at the present day, and the purchasing power corresponding greater. Yet on this modest stipend certain architects managed to amass large fortunes; Leonidas of Naxos, for example, who wrote a book on Proportion, was a famous and wealthy man (M. S. Briggs). Other authorities assert that the architect received ten times as much as the skilled workman, so that in all probability the pay of 1½ to 2 drachmas to the architect in the various inscriptions mentioned by Dr. Jevons was the amount received for the actual superintendence during building operations. Doubtless the government paid the usual 4.8% for the plans, specifications and models, and then, in its wisdom, employed the designer to supervise the erection of the child of his brain for an additional fee, at least equal to the pay of the skilled laborer, which in a socialist

(or facist) community seems fair enough, but in a glorious republic like ours, an economic waste. On any other hypothesis, the large sums mentioned by the elder Pliny as having been received by the artists of those days could hardly be accounted for. Some of the best of the skilled workmen received as much as 2½ drachmas a day.

Plutarch tells of a "wonderful event" which happened during the progress of the work on the Propylæa. One of the best and most active of the workmen fell from the high staging and was severely injured. Pericles, who was very fond of this man who had endeared himself to all by his merry quips and deeds of fearless daring on the derricks, was deeply concerned and grieved at the misfortune that had befallen his favorite stone cutter. The goddess appeared to the great ruler in a dream and recommended a remedy, the plant Parthenium or common feverfew, of the genus Matricaria. This being administered the patient was speedily relieved, to the amazement of the physician who had despaired of his recovery. In commemoration of the event, Pericles ordered a statue to Athena Hygeia set up on the famous passage leading from the Propylæa along the north side of the Parthenon. (Ency. Brit. II 837.d.)

While jotting down these random notes, a visitor was announced. It proved to be none other than Dr. Fellows the Antiquary, tired and thirsty after a fatiguing ride over dusty roads in the hot sun of an Indian Summer. Emerging from behind a great pile of reference books, we made the Doctor comfortable in a porch chair in the shade, tabouret at his elbow. "Will you accept a glass of home-made beer, Doctor?" "Willingly, willingly," the genial old gentleman replied, his eye resting on a pot of Sansevieria, that weird looking modernistic plant, spotted like a *cobra di cappello*, that the chatelaine had recently picked up for a mere pittance at Woolworth's. "Curious what a vogue the Sansevieria is having," the learned man mused while waiting for the beer to be drawn. "Must be the violent contrast of color and form that appeals to the modern spirit. I suppose the plant grew in profusion in the villa gardens and temple close of Lencothea in ancient Pyrgi. The famous 'thratta,' esteemed so highly by the Romans, was gathered by the drag-nets of the fish-mongers of what is now San Severia, you know—Ah, here comes the beer!" The antiquary's excogitations ceased as he caught the welcomed sight of a tray bearing glasses and a large pitcher, its top crowned with foam. "That's not such a bad brew," observed the Doctor. "Reminds me somewhat of the ale at the old 'Bell in Hand.' Hope I live to taste their Bass', Stout, and Union again. My! but that Union ale was potent. I recollect one Saturday afternoon, years ago, when an old friend—he was best man at my wedding, hadn't been a Benedict long himself—dropped 'round for lunch. I suggested the 'Bell,' he'd never been there, and we each had two mugs of Union, it being a hot dry kind of a day, something like this. After that we went down to Bixby's for a Continental Punch. You remember Bixby's don't you? Of course you do, and their famous Continental Punch? Well, we had two or three and munched pilot bread and their marvellous cheese. Remember the cheese? It was Young America that had been kept in the cellar until it had aged just right. Bixby wouldn't allow a cheese to be brought up until he'd personally inspected it. One of them always stood on the end of the bar with a fresh napkin wrapped around its sides and a cheese scoop stuck in its top. You helped yourself. In fact you helped yourself to everything. The 'bar' was a narrow little place, just wide enough for two people to pass, with a counter on each side, shelves above filled with bottles and a bowl of ice near the sink. Charley was there to do things if you wanted him to, and, of course, he always made the Continental Punch. That was a rite in itself. Tell you how it was made, presently, if you don't know. Well, after visiting the wine caves with Bixby and sampling his old sherry, we drifted out around dusk and wandered up towards the Custom House. Dropped in to Madame Petitpas' *Café de la Bourse* for some lobster and a *filet Mignon*. Thought maybe a bottle of Burgandy and some of her Napoleon brandy would set us up a bit. It did. The rest of the evening was a little foggy, but we got home all right. George's wife was at the house and the next morning when we all gathered in the Dining Room, the breakfast table, somehow, didn't seem very appealing. George took one look at the fish balls and the great plate of toast, turned pale and hastily left the room. A while later he returned, somewhat haggard, and lowered himself gingerly into a chair.

" 'Why George Whittlesey!' said Alice, 'you've never lied to me before. You told me last night you only had two drinks! Surely two couldn't possibly have made you like this?'

" 'My dear!' said George, 'I cannot tell a lie. We went to a quiet little ale house and I drank two drinks, only, out of a tin cup. After that, I remember no more!'

" 'You shouldn't have got drunk in the first place,' replied Alice severely.

" 'I didn't,' answered George. 'I think it must have occurred in the tenth place!' "

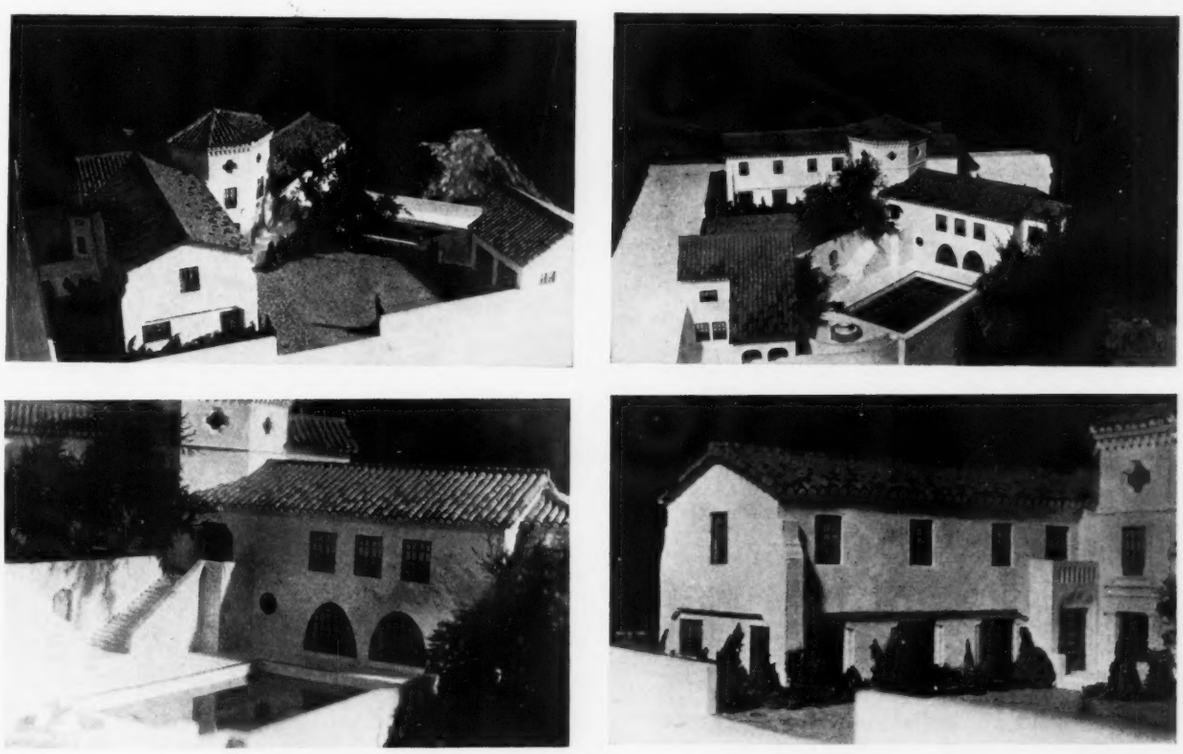
The good Doctor took a long pull, emptied his goblet, filled it again from the pitcher on the table, sighed deeply, gazed reflectively across the meadow where a skylark was teetering on a mullin stalk, hummed softly a few bars from McDowell's "To a Boll Weevil," and said, "Did I give you the receipt for the Continental Punch? No? As I remember it, there were three kinds of rum, New England, Medford, and Santa Cruz, say one-third part of each, then one part French Brandy, just the right amount of Grenadine, a few squirts of seltzer and stir well with ice in a large bar glass. It's all in the proportions. One flavor should not predominate above the other. Charley used to exercise rare judgment when it came to the seltzer. If the patient had had several and still wanted another, he, the patient, got one with more seltzer, that's all."

"Did I ever tell you about my 'Bring-You-To'?"

we asked. "There's a drink for the stout-hearted. Makes you want to laugh and play. Fills you full of noble Thoughts, High Ideals, Ethos, and all that sort of thing, you know." "Yes?" said the Doctor. "Tell us about it."

THE BRING-YOU-TO. Use a large bar glass. In it place three or four goodly pieces of ice. On this squeeze a largish slice of lemon peel, a dash or so of Angostura, not more than three or four drops, one-third French Vermouth, one-third Italian Vermouth, one-third Santa Cruz rum (if you use another rum, a little more may be added)—this makes one part. Then to this amount add five parts of gin and stir circumspectly until the whole is reduced somewhat and thoroughly chilled. If there are ladies in the party, place a maraschino cherry in the cocktail glasses, together with a little of the juice; for males, a pitted manzanillo olive would doubtless be preferable.

"That sounds good," said the Doctor. "Suppose we try one?" "What, on top of ale?" "Oh, well, *one* won't do any harm. If George had had one before coming down to breakfast that Sunday morning, he might have been a different man today!"



FOUR VIEWS OF A MODEL BY LAWRENCE M. COOK OF DALLAS, TEXAS

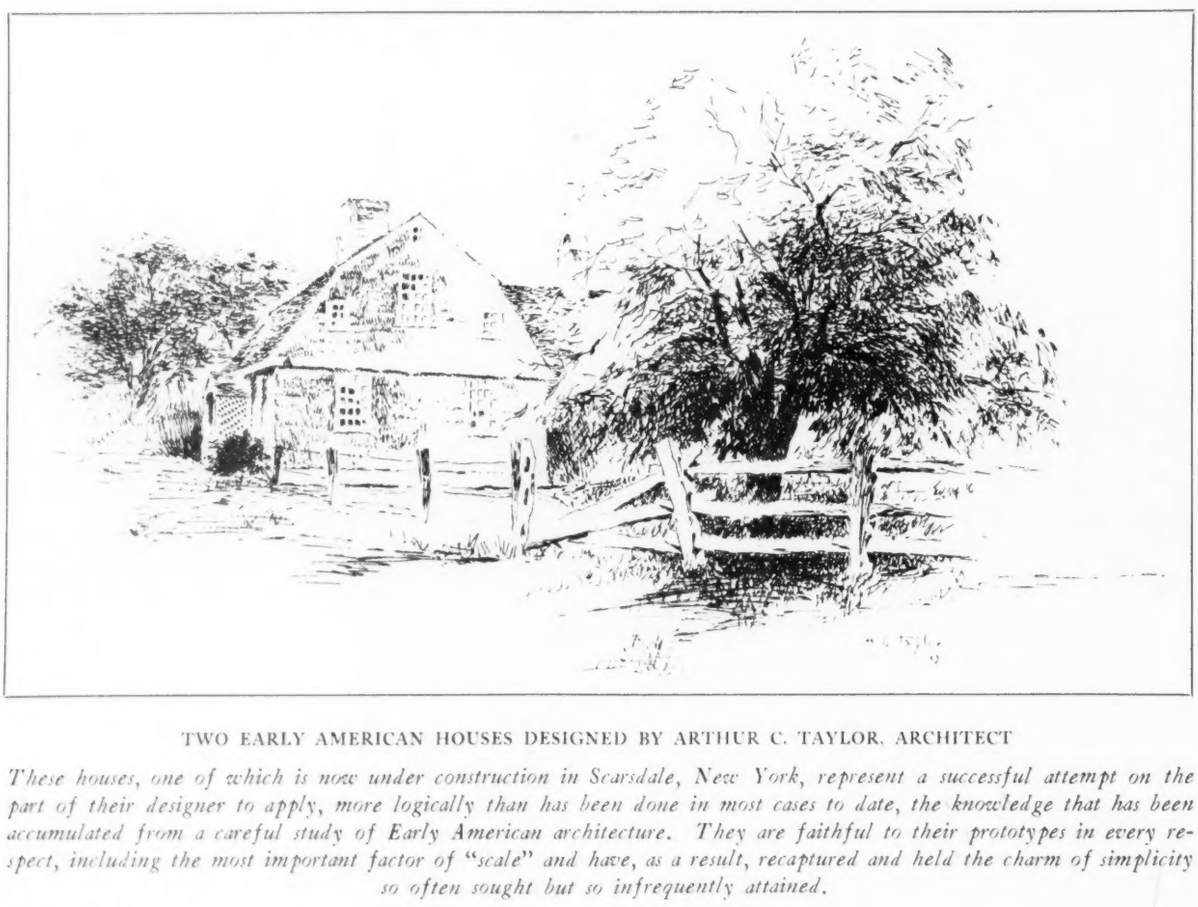
The exceptionally well constructed model of a residence shown by the accompanying photographs was made by Lawrence M. Cook, of Dallas, Texas, while he was working for an advanced degree at the Agricultural and Mechanical College of Texas. The model was built as a part of the solution of a problem in design. In addition to designing the residence, the student was required to make a ¼" scale model, complete in every respect, including color, texture, landscaping, etc.

The first step was to model each wall and roof surface in clay, using the ¼" scale drawings as a guide. When all of the clay models were made and approved, each separate piece was mitered at the corners, set together with plaster, and the joints pointed up.

Intricate ornament was carved in the plaster, since the detail was too fine to work in the clay and cast. Mouldings were run in plaster from tin templates.

The roof was made with the assistance of corrugated cardboard, which was cut up into strips the width of a single corrugation and from ½ to ¾ of an inch in length. These small pieces were then glued down to a flat board in a pattern simulating roof tile. After shellacking and greasing well, a mould was made which was large enough to cover the largest single roof area. A number of casts were then made and the individual roof surfaces cut to the shapes and sizes needed. In attempting this method of imitating roof tile, care should be taken to choose a glue for sticking the pieces of corrugated board down that will not be affected by heat. The setting of the plaster mould will melt some kinds of glue and spoil the model.

The program called for metal casements, so for the muntins and division bars Mr. Cook used a stout grade of twine soaked in paint of the desired color, cut in short lengths as required, and glued in place after the curtains and draperies had been painted on the plaster. For some of the shrubbery the familiar painted sponge was used and the trees were made of a seaweed formation attached to a wire framework. The entire model was built on a wood frame covered with hardware cloth, the frame being originally made to fit the contours so far as practicable. All of the coloring was done with sign painter's colors.



TWO EARLY AMERICAN HOUSES DESIGNED BY ARTHUR C. TAYLOR, ARCHITECT

These houses, one of which is now under construction in Scarsdale, New York, represent a successful attempt on the part of their designer to apply, more logically than has been done in most cases to date, the knowledge that has been accumulated from a careful study of Early American architecture. They are faithful to their prototypes in every respect, including the most important factor of "scale" and have, as a result, recaptured and held the charm of simplicity so often sought but so infrequently attained.

THE MONOGRAPH SERIES

RECORDS OF EARLY AMERICAN ARCHITECTURE
AS SOURCE MATERIAL

EDITED BY RUSSELL F. WHITEHEAD, A·I·A

VOLUME XIX

MONOGRAPH FIVE

Some New England Staircases—1670-1770

BY BENJAMIN GRAHAM

Research and Measured Drawings by Frank Chouteau Brown
Photographs by Arthur C. Haskell

When the first Colonial dwellings began to attain the dignity of a full second story, with rooms of useable height, the temporary ladder-like arrangement that had previously served to reach the upper floor changed to a more permanent and a more ornamental feature in the American home. Sometimes it ran directly between partitions of wide board sheathing or plaster or, starting with a quarter wind at the bottom, it went steeply upward to the low chambers overhead. Or it reversed this process, starting straight up from beside the Kitchen in the "linter" (or "lean-to"), attaining the floor above with a quarter turn to right or left, as the case might be.

When the location against the front of a large chimney serving two end rooms, and possibly also a third at the rear, became common, the latter stair plan was soon changed to a flight of three runs—as in the Waters House at Marblehead—with either landings or winders at the corner angles, depending upon the height to be gained and the width of the chimney itself. Usually the chimney was spacious enough to permit of the landing (as in the Salmon Falls staircase), thus making the stairs easier to take by means of the brief "breather" at the turn, breaking up the steepness of the runs, generally of three to five risers each. And this remained the favorite stair arrangement, until the chimneys were removed to the outer end walls or placed midway between a pair of end rooms, when the Hall might be run entirely through the house from front to back, with a long straight flight of stairs, sometimes with a turn at top or bottom.

The staircase of the old-time New England house is always one of its most attractive adjuncts. No matter how simple, its proportions are almost invariably good and it is generally regarded as a most attractive feature of the early Colonial structure. Even the crudest and most primitive examples are today accepted as interesting exhibits of the inherent feeling of their builders for the design appropriate to its environment and the method of construction that was most perfectly adapted to express the materials available.

In the earliest existing houses, where the stairs are still to be seen in something approaching their original condition, built perhaps during the last half of the Seventeenth Century, the staircases usually had no baluster of any kind. It was then customary to extend the simple boarded face of the partition under the stair run up to the height of a low rail or to the level of the second story floor above, thus stiffening the stair construction and simplifying the problem of protecting the stair edge.

When the boarding—usually at that time some variation of the feather-edge pattern—did not extend up to the second floor timbering, it sometimes stopped at a height of two feet to thirty inches above the step rise, and was capped with a narrow moulded crown strip, with a small bedmoulding upon the face, or upon both sides. Or it might merely extend from

the first floor to the stair stringer and a single piece of hand railing carried between simple rough posts at top and bottom, with the space below left open—as was probably the original condition of the Dr. Peaslee stairway in the brick Garrison House at Rock Village, Massachusetts, dating from 1675.

Of course, at that time, the entire stair construction was suspended from two "buttresses" or "raised stringers," one on each side of the steps, into which the risers and treads were housed. These supports were usually about 10 by 2 inches, and there were no intermediate "stringers" used between, as supports, as is the modern custom. Often this stairway was left in its open and unadorned simplicity, as in the example from the Dennison House (shown in the February Monograph, 1933) at Annisquam; where the work was carried out in pine, fashioned after the earlier oak staircases, of which there are several examples dating from about 1675. Again, with this form of design, and either one or two sloping rails pinned at each end into the upright posts at landing and floor levels, this treatment served as a sort of structural "truss," obviously stiffening the carriage of the stairs, and suspending each flight from end to end, even with a turn or landing in between.

Most early staircases were so cramped that they were perforce carried around angles in the plan with a series of steps, making what is known as a "wind," rather than the pleasanter and easier "landing"—as in the King Hooper, Waters, rear Warner Stairs, and other numerous examples. And the angles of these winding steps are very generally not at the usual 22½, 30 or 45 degree, so regularly employed in modern stairbuilding, but some slight variation of these angles, the stair winders being usually "worked" or "handled" around the post, in the manner that appears in the plan of the Dennison staircase, and others here indicated.

Another detail characteristic of the early staircases is the informal variance of the height of the rail above tread and gallery level, being often higher than is the modern custom and, occasionally, much lower, while in those instances (as in the Wentworth Mansion at Salmon Falls) where the rail on each run of the flight is a handworked ramp made in one piece of material, it shows considerable extremes of height, as appears in the varied lengths of the balusters.

The old rule-of-thumb proportioning of stair-rise to stair-tread dimension—"that twice the rise added to the width of tread should equal 25 inches" (or, at least, come within the extremes of 24 to 26 inches)—has been pretty consistently adhered to in all old work.

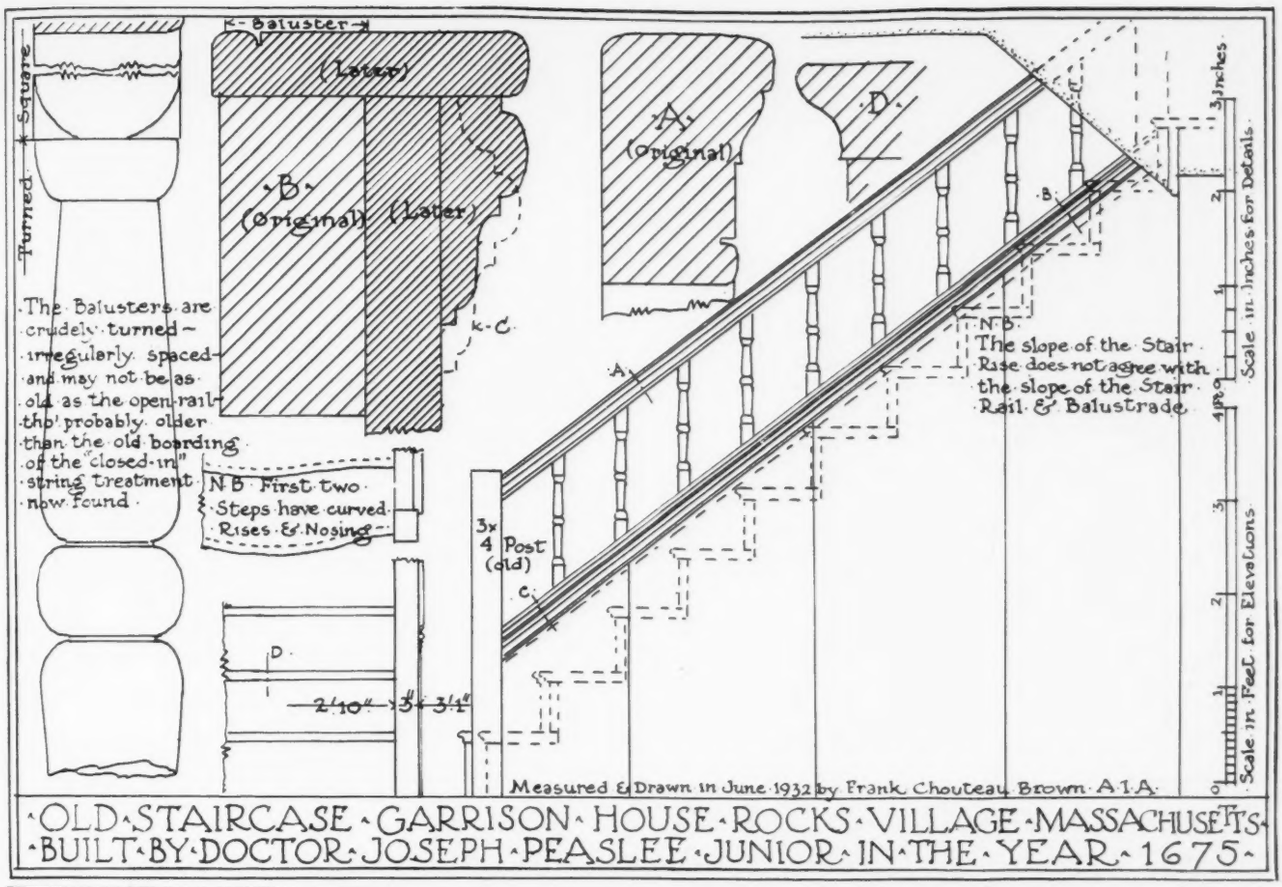
The turned baluster was probably introduced some time between 1675 and 1700. At first wide-spaced and roughly turned or "whittled" out of soft wood (as in the Peaslee stairs at Rock Village) it was often — as there — inserted under older existing rails. Its turnings gradually became more ornate and elaborate—as in the Salmon Falls Mansion House, where a baluster pattern very advanced and delicate for its period, with an informal irregularity of turning that naively bespeaks its probable original date—until we reach the perfections obtained in the fine mahogany and workmanship of the spacious front stairs of the famed Jeremiah Lee Mansion at Marblehead, with its majestic width of seven feet!

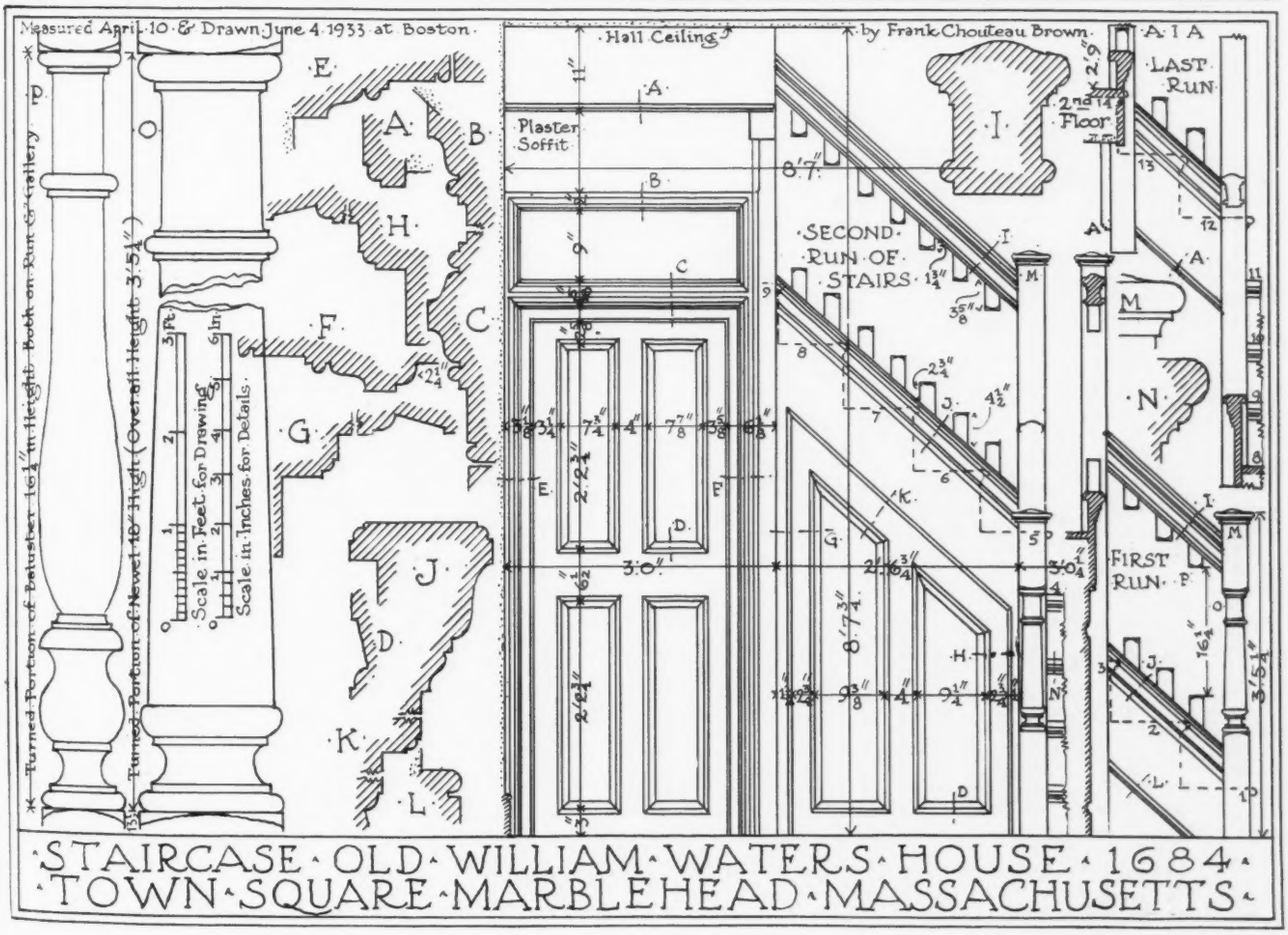
It seems impossible that this fine workmanship was achieved by the inventive artisan, from a simple turning lathe. Yet the elaborate and delicately moulded posts and balusters of the Lee Mansion must have been achieved in 1768 with a common lathe, foot or water-powered. With this simple implement, geared to a slow even turning, a skilled workman could mark out these twists and spirals with the edge of his chisel, grooving them as deeply as he dared: and then, with their regularity once established, he could complete the grooving by hand, and finish off the twist at top or bottom by carving—as was always necessary, even with the most improved machines for this work, of which the earliest known in New England was not developed before 1860 or 65.

Or notice the skill and perfection of thoroughness with which the Dillaway House stairway has been worked out. This perfection may be contrasted with the Short House stairs, done in the advanced, comparatively rich and populous settlement of Newbury, and made for a far wealthier man than the simple parson who built the Dillaway House across the street from his Church on Eliot Square in Roxbury. For the Short House balusters, as magnified in their shadows on the wall, betray almost the extremes of variation, in their turnings and patterns, of any of the examples illustrated in this collection.

Some of these same variations are to be found in the earlier famed Warner House at Portsmouth, built between 1718 and 1722, at a cost of 10,000 pounds by one Capt. MacPhestris. But here probably other elements must be taken into account. Only the rear staircase now seems plausibly harmonious with its period. The front flight has been subjected to extensive alterations; probably the closed-in type of gallery treatment found on the landing and second floor expressing the older—and perhaps the original—design. The workmanship along the runs, and stair ends, dating from some later rebuilding or change—even though made soon after the dwelling was completed!

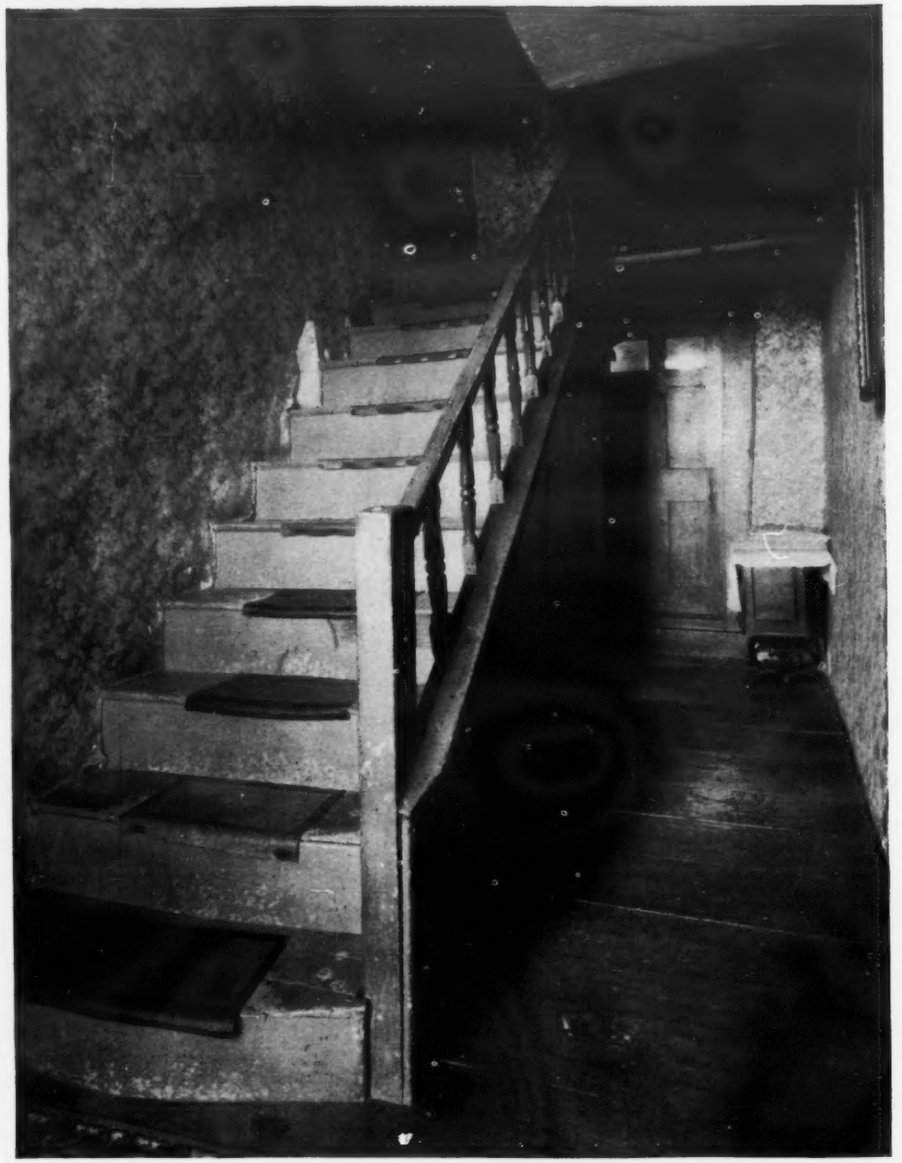
The Lee Mansion front stairs, with double twisted newel, three differently designed balusters on each tread, and its mahogany rail ramped at the stair well angles as well as at the landings, is among the most elaborate stair designs of the period. It also shows the characteristic wall dado, its cap following out the ramps and eases of the stair rail, but at a height some ten inches above the latter, that appears in all the best examples. Finally it also exhibits the boxed-in undercarriage, paneled upon the back face, that shows under the second run, extending from the landing to the second floor level.


Baluster
(later)
B
(original) (later)
A
(original)
D
Square
Turned
The Balusters are crudely turned — irregularly spaced and may not be as old as the open rail tho' probably older than the old boarding of the "closed-in" string treatment now found
N.B. First two Steps have curved Risers & Nosing
3x 4 Post (old)
N.B. The slope of the Stair Rise does not agree with the slope of the Stair Rail & Balustrade
Scale in Inches for Details
Scale in Feet for Elevations
Measured & Drawn in June 1932 by Frank Chouteau Brown A.I.A.
OLD STAIRCASE GARRISON HOUSE ROCKS VILLAGE MASSACHUSETTS
BUILT BY DOCTOR JOSEPH PEASLEE JUNIOR IN THE YEAR 1675


Measured April 10 & Drawn June 4 1933 at Boston
by Frank Chouteau Brown A.I.A.
Hall Ceiling
Plaster Soffit
Turned Portion of Baluster 16¼" in Height Both on Run & Gallery
Turned Portion of Newel 18" High (Overall Height 3'5¼")
Scale in Feet for Drawing
Scale in Inches for Details
SECOND RUN OF STAIRS
LAST RUN
FIRST RUN
2nd Floor
STAIRCASE OLD WILLIAM WATERS HOUSE 1684
TOWN SQUARE MARBLEHEAD MASSACHUSETTS

[89]

WILLIAM WATERS STAIRCASE—1684—MARBLEHEAD, MASS.



JOSEPH PEASLEE STAIRCASE—1675—ROCK VILLAGE, MASS.

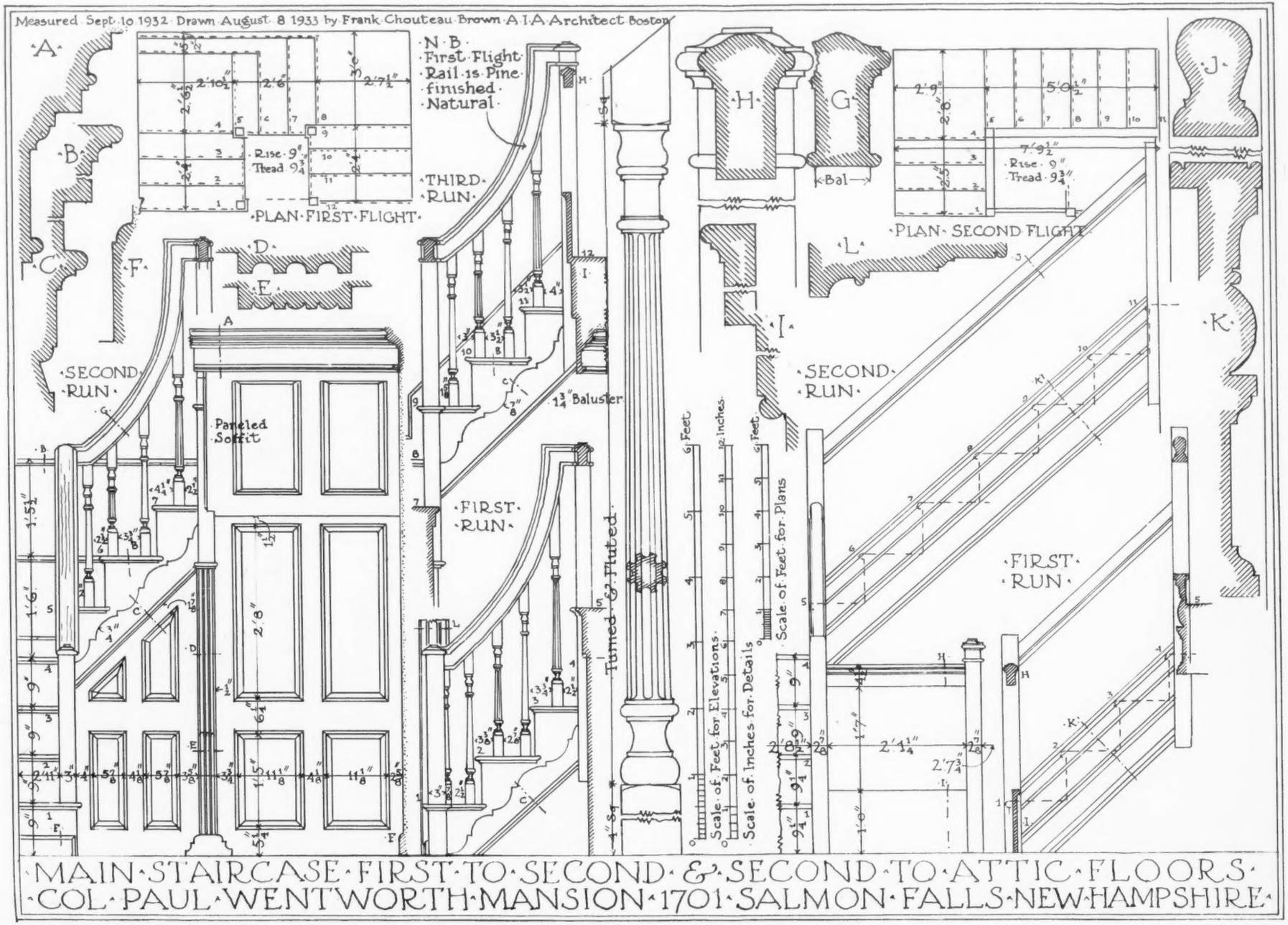
(Measured Drawings Shown on Page 67)

PAUL WENTWORTH STAIRCASE—1701—SALMON FALLS, N. H.

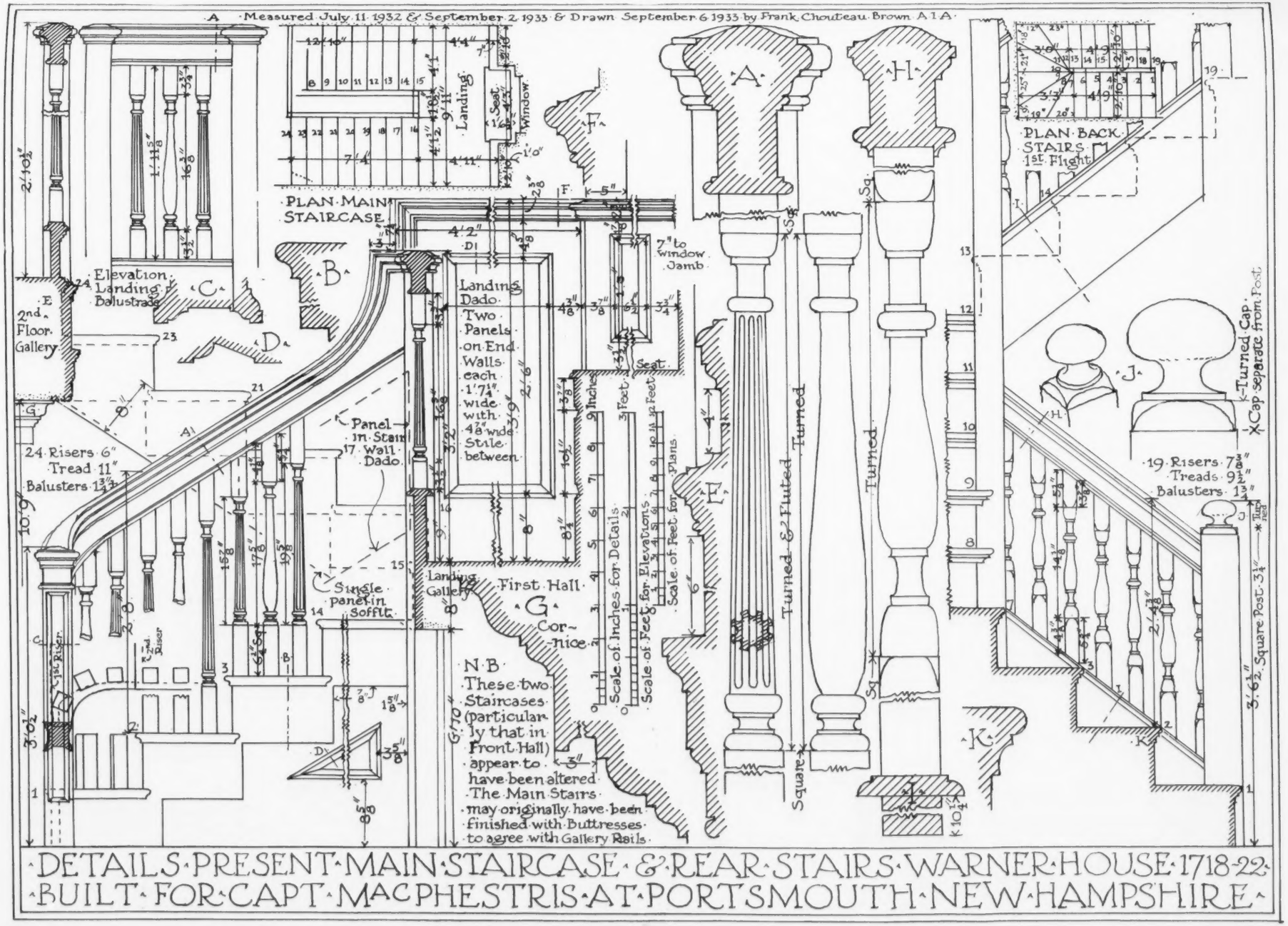
(Measured Drawing on Page 70)

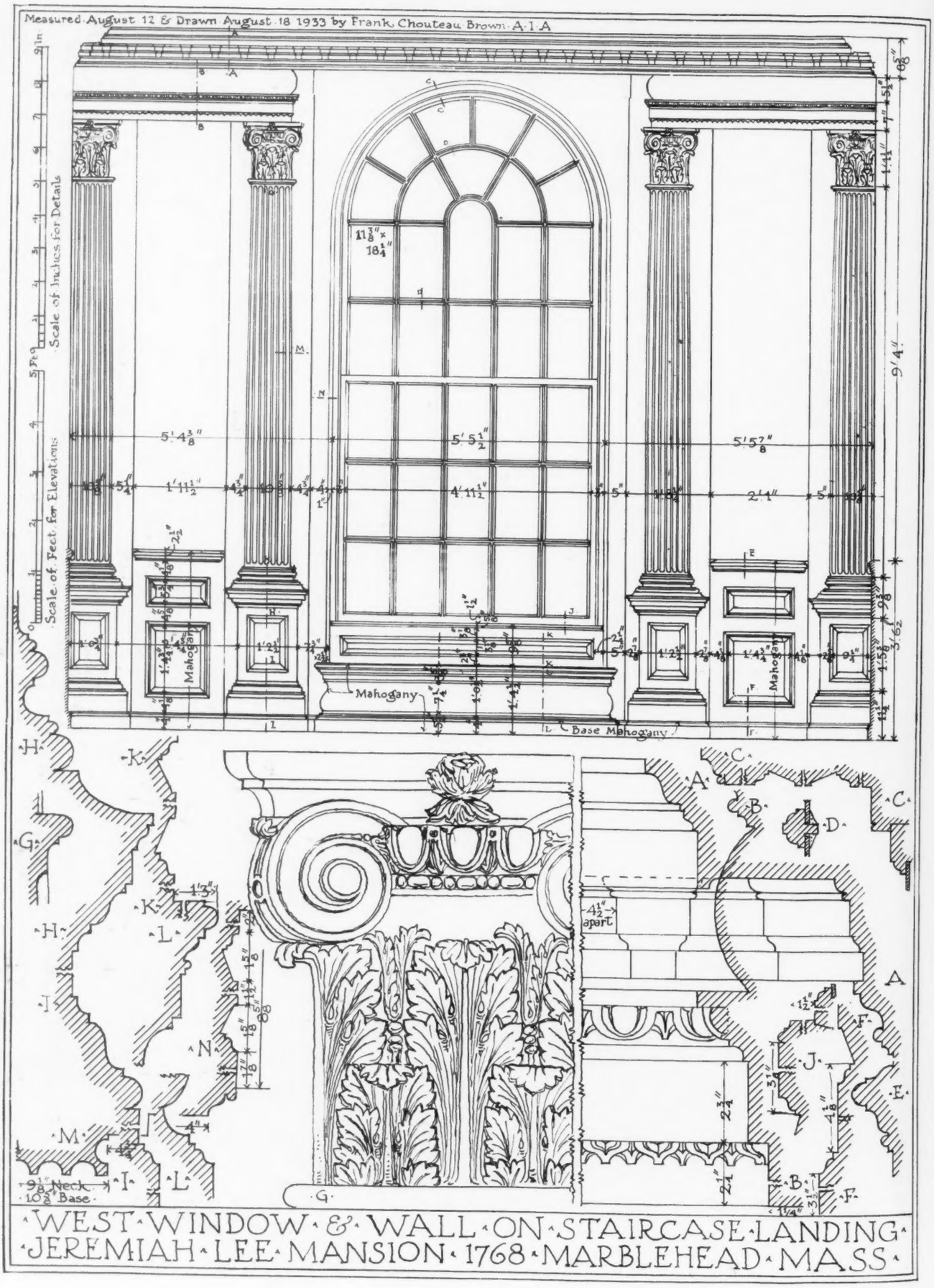
WARNER HOUSE STAIRCASE—1718-22—PORTSMOUTH, N. H.

(Measured Drawing on Page 71)


Measured Sept 10 1932 Drawn August 8 1933 by Frank Chouteau Brown A.I.A. Architect Boston
N.B. First Flight Rail is Pine finished Natural
THIRD RUN
PLAN FIRST FLIGHT
Rise 9" Tread 9¾"
SECOND RUN
FIRST RUN
Paneled Soffit
1¾" Baluster
Turned & Fluted
4" Sq
Scale of Feet for Elevations
Scale of Inches for Details
Scale of Feet for Plans
PLAN SECOND FLIGHT
Rise 9" Tread 9¾"
Bal
MAIN STAIRCASE FIRST TO SECOND & SECOND TO ATTIC FLOORS
COL PAUL WENTWORTH MANSION 1701 SALMON FALLS NEW HAMPSHIRE

[71]


A Measured July 11 1932 & September 2 1933 & Drawn September 6 1933 by Frank Chouteau Brown A.I.A.
PLAN MAIN STAIRCASE
PLAN BACK STAIRS 1st Flight
Elevation Landing Balustrade
2nd Floor Gallery
24 Risers 6" Tread 11" Balusters 1 3/4"
Landing Dado Two Panels on End Walls each 1'7 1/4" wide with 4 1/8" wide Stile between
Panel in Stair Wall Dado
Single panel in Soffit
Landing Gallery
First Hall Cornice
7" to window Jamb
Seat
Window
Landing
Scale of Inches for Details
Scale of Feet for Elevations
Scale of Feet for plans
Turned
Turned & Fluted
Square
Turned Cap
Cap separate from Post
19 Risers 7 3/8" Treads 9 1/2" Balusters 1 3/4"
3" Square Post 3 1/4"
N.B. These two Staircases (particularly that in Front Hall) appear to have been altered. The Main Stairs may originally have been finished with Buttresses to agree with Gallery Rails.
DETAILS PRESENT MAIN STAIRCASE & REAR STAIRS WARNER HOUSE 1718-22
BUILT FOR CAPT MACPHESTRIS AT PORTSMOUTH NEW HAMPSHIRE


Measured August 12 & Drawn August 18 1933 by Frank Chouteau Brown A.I.A.
Scale of Feet for Elevations
Scale of Inches for Details
Mahogany
Base Mahogany
9'4"
WEST WINDOW & WALL ON STAIRCASE LANDING
JEREMIAH LEE MANSION 1768 MARBLEHEAD MASS.

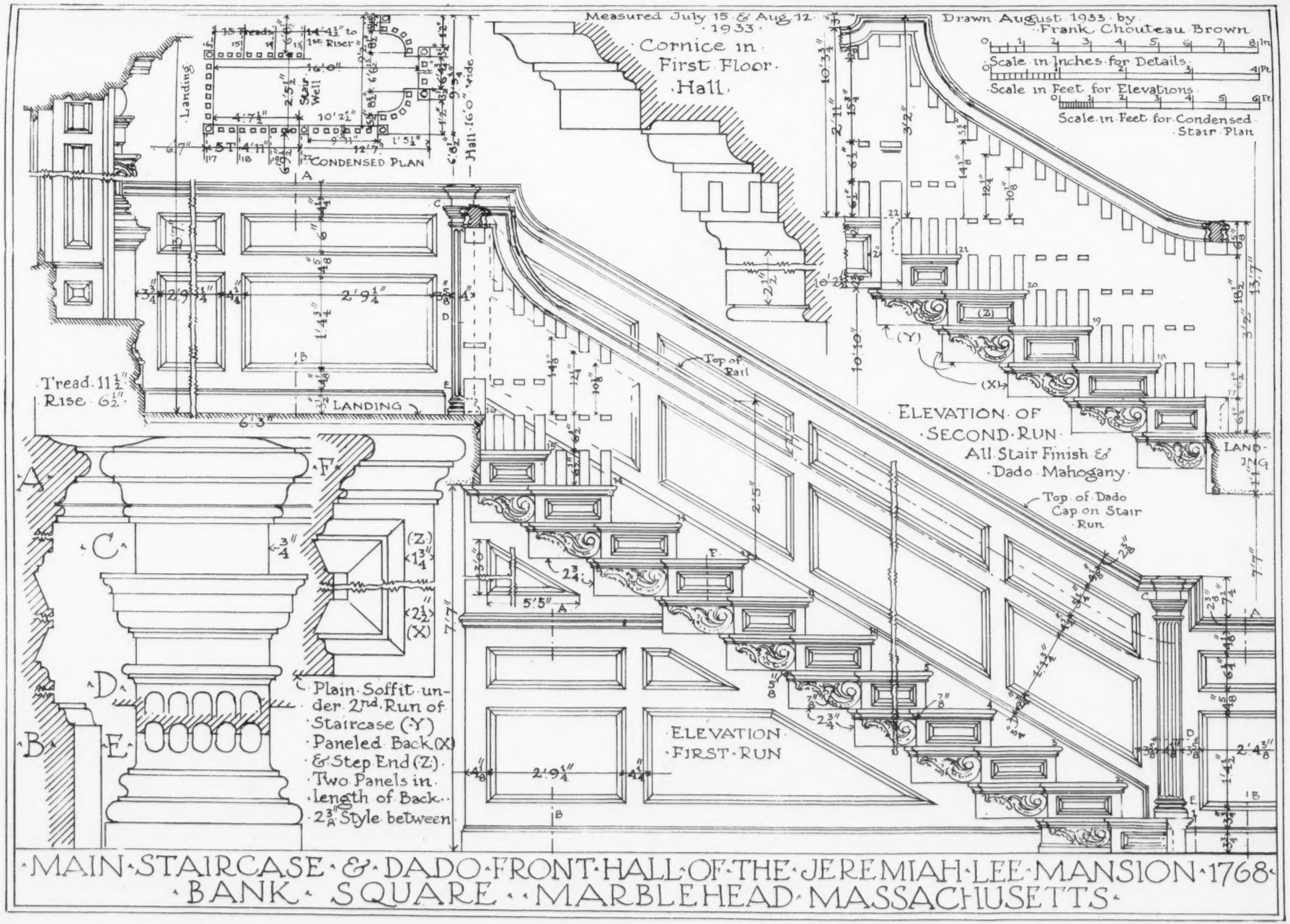
[72]

JEREMIAH LEE MANSION—1768—MARBLEHEAD, MASSACHUSETTS

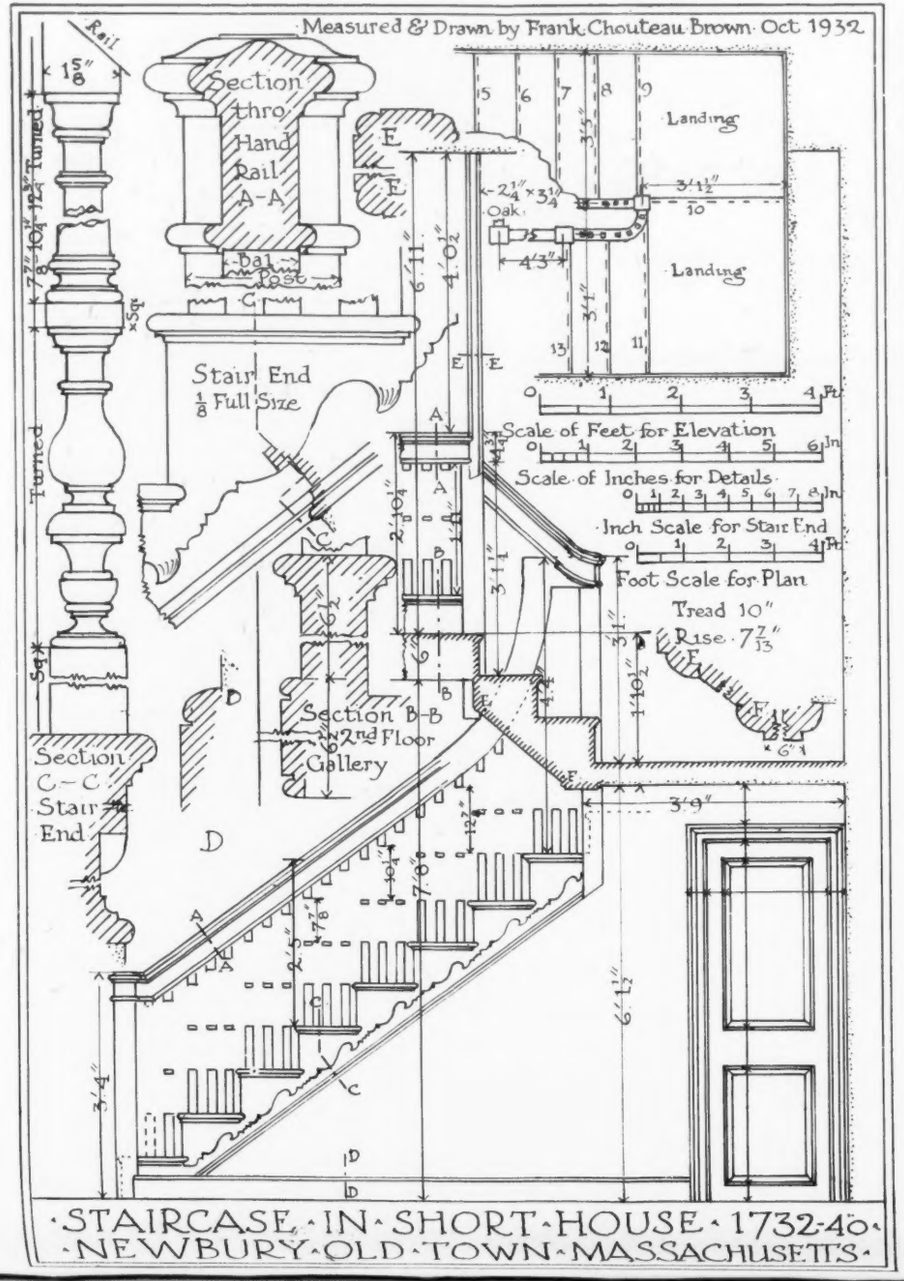
(Measured Drawings Shown on Pages 72, 74, and 75)

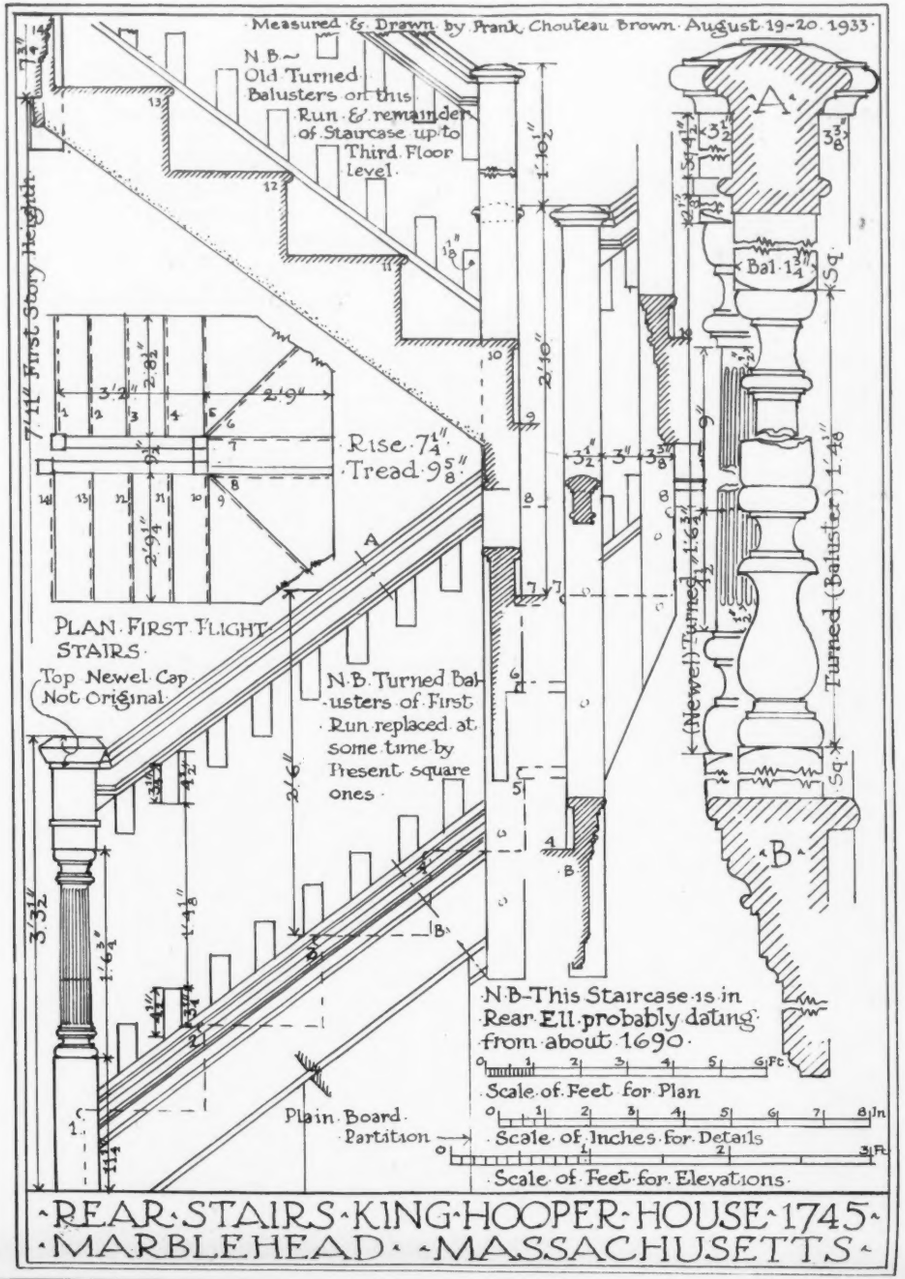
LANDING · POST · & BALUSTRADE DETAILS ·
STAIRCASE · LEE · MANSION · MARBLE HEAD ·
Measured July 15 & Drawn during August, 1933 by Frank Chouteau Brown, A.I.A.
Short Ramp from Gallery Rail level
Material ~ Mahogany
Tread 11½"
Rise 6½"
Baluster 1⅜" +
Posts 3⅝"
Ramp to Second Floor Gallery & Post
Rail 2'5" High on Run
Height of Gallery Rail 15 · 2'11" (3'2" on Corner Angles)
Scale in Inches for Drawing
Square 6½"
Turned & Twisted 18½"
Turned & Twisted 14⅜"
Turned & Twisted 12½"
Turned & Spiraled 10⅜"
2nd Riser (in Plan)
Turned & Carved 3⅜"
Turned Double Twisted & Inserted 18⅜"
Newel 3'2½" to Floor
Newel in Plan 15"
DETAILS · NEWEL · SIDE-EASE · & BRACKET END ·
STAIRCASE · LEE · MANSION · MARBLE HEAD ·

[75]


Measured July 15 & Aug 12 1933
Drawn August 1933 by Frank Chouteau Brown
Cornice in First Floor Hall
Scale in Inches for Details
Scale in Feet for Elevations
Scale in Feet for Condensed Stair Plan
CONDENSED PLAN
Landing
Hall 16'0" wide
Stair Well
Tread 11½"
Rise 6½"
LANDING
Top of Rail
ELEVATION OF SECOND RUN
All Stair Finish & Dado Mahogany
Top of Dado Cap on Stair Run
ELEVATION FIRST RUN
Plain Soffit under 2nd Run of Staircase (Y)
Paneled Back (X)
& Step End (Z)
Two Panels in length of Back
2⅜" Style between
MAIN STAIRCASE & DADO FRONT HALL OF THE JEREMIAH LEE MANSION 1768
BANK SQUARE MARBLEHEAD MASSACHUSETTS

[76]


Measured & Drawn by Frank Chouteau Brown Oct 1932
Section thro Hand Rail A-A
Bal
Post
Rail
Turned
Sq
Stair End
1/8 Full Size
Landing
Landing
2¼" × 3½" Oak
Scale of Feet for Elevation
Scale of Inches for Details
Inch Scale for Stair End
Foot Scale for Plan
Tread 10"
Rise 7 7/13"
Section B-B
2nd Floor Gallery
Section C-C
Stair End
STAIRCASE IN SHORT HOUSE 1732-40
NEWBURY OLD TOWN MASSACHUSETTS


Measured & Drawn by Frank Chouteau Brown August 19-20 1933
N B ~ Old Turned Balusters on this Run & remainder of Staircase up to Third Floor Level
7'11" First Story Height
Rise 7¼"
Tread 9⅝"
PLAN FIRST FLIGHT STAIRS
Top Newel Cap Not Original
N B Turned Balusters of First Run replaced at some time by Present square ones
Plain Board Partition
N B-This Staircase is in Rear Ell probably dating from about 1690
Scale of Feet for Plan
Scale of Inches for Details
Scale of Feet for Elevations
Bal 1¾ Sq
(Newel) Turned 1'6¾"
Turned (Baluster) 1'4⅛"
REAR STAIRS KING HOOPER HOUSE 1745
MARBLEHEAD MASSACHUSETTS

SHORT STAIRCASE—1732-40—NEWBURY OLD TOWN, MASS.

(Measured Drawing on Page 76)

KING HOOPER REAR STAIRS—1745—MARBLEHEAD, MASS.

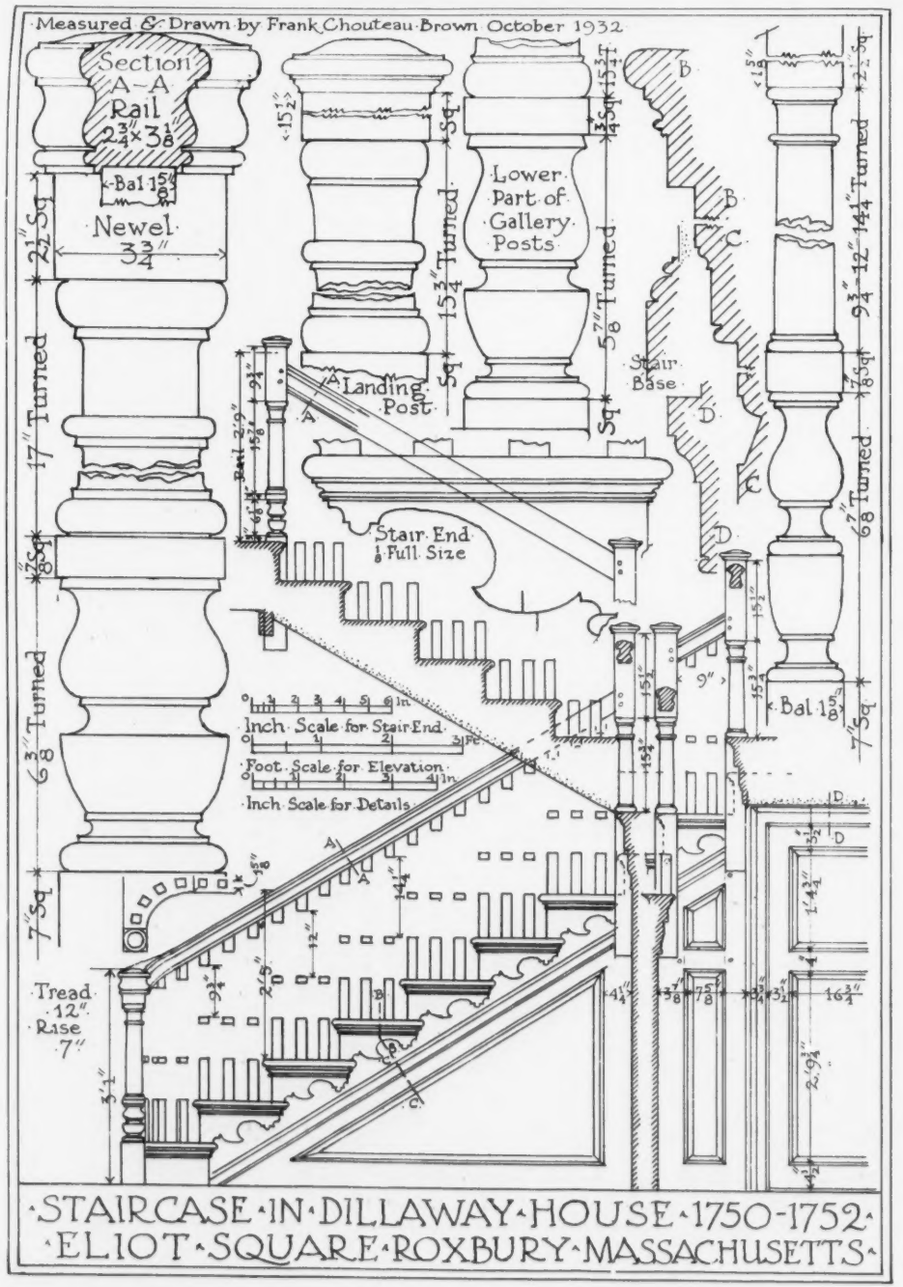
(Measured Drawing on Page 76)

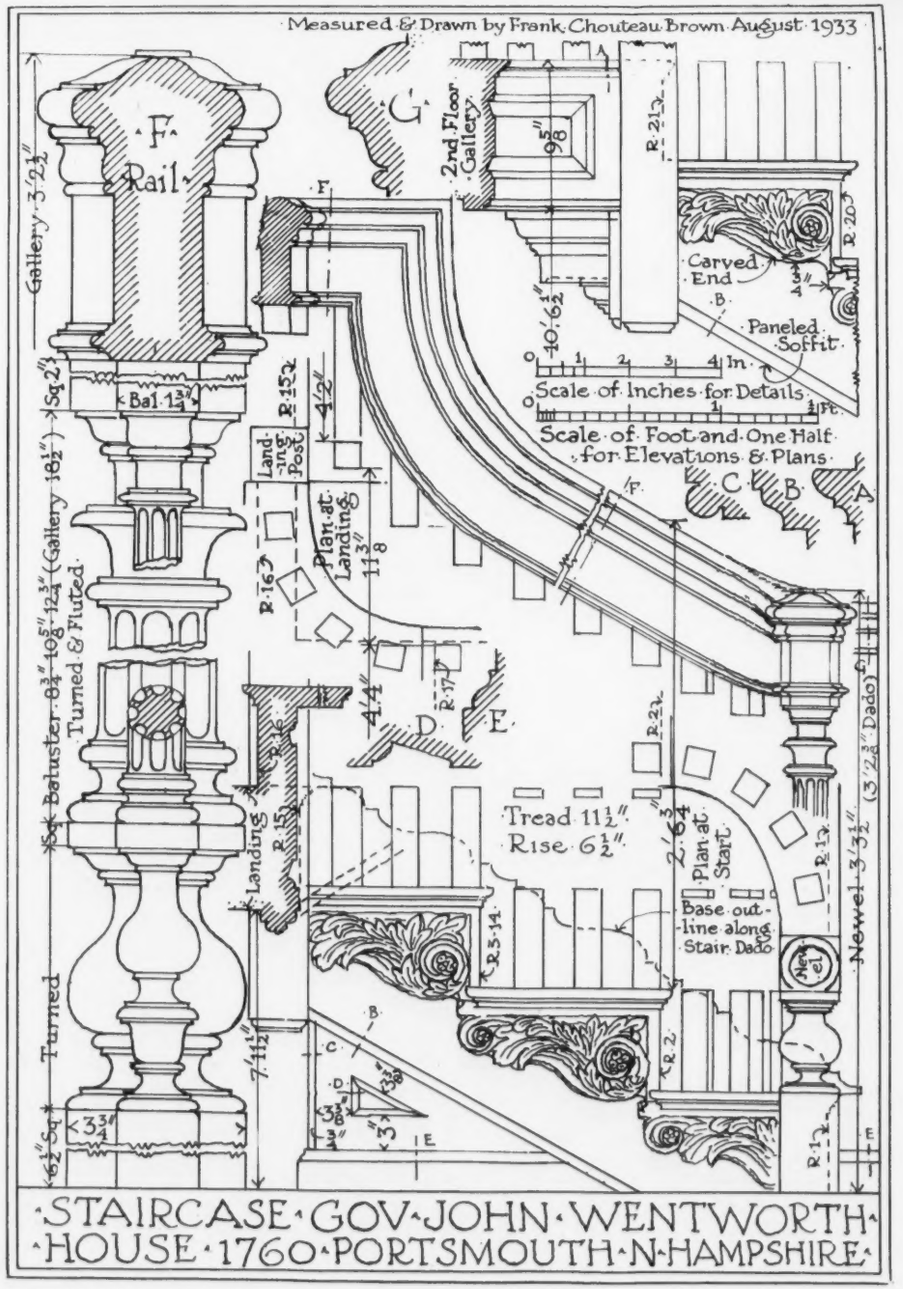
DILLAWAY STAIRCASE—1750-52—ROXBURY, MASS.

(Measured Drawing on Page 79)

GOV. JOHN WENTWORTH STAIRCASE—1760—PORTSMOUTH, N. H.

(Measured Drawing on Page 79)


Measured & Drawn by Frank Chouteau Brown October 1932
Section A-A Rail 2¾ × 3⅛
Bal 1⅝
Newel 3¾
21" Sq
17" Turned
6⅜" Turned
7" Sq
Lower Part of Gallery Posts
15½" Sq
15¾" Turned
5⅞" Turned
Stair Base
Landing Post
Stair End ⅛ Full Size
Bal 2⅜
Bal 1⅝
9" Sq
6⅞" Turned
9¾" 12" 14¼" Turned
Inch Scale for Stair End
Foot Scale for Elevation
Inch Scale for Details
Tread 12" Rise 7"
STAIRCASE IN DILLAWAY HOUSE 1750-1752
ELIOT SQUARE ROXBURY MASSACHUSETTS


Measured & Drawn by Frank Chouteau Brown August 1933
F Rail
G
2nd Floor Gallery
Gallery 3'2½"
Sq 2½
Bal 1⅜
Landing Post
Plan at Landing
Carved End
Paneled Soffit
Scale of Inches for Details
Scale of Foot and One Half for Elevations & Plans
Baluster 8¾" 10⅝" 12¾" (Gallery 18½") Turned & Fluted
Tread 11½" Rise 6½"
Plan at Start
Base out-line along Stair Dado
Newel 3'3½"
(3'2⅜" Dado)
STAIRCASE GOV JOHN WENTWORTH HOUSE 1760 PORTSMOUTH N HAMPSHIRE

"OLD TARR HOMESTEAD"—6 SOUTH STREET, ROCKPORT, MASSACHUSETTS

[80]

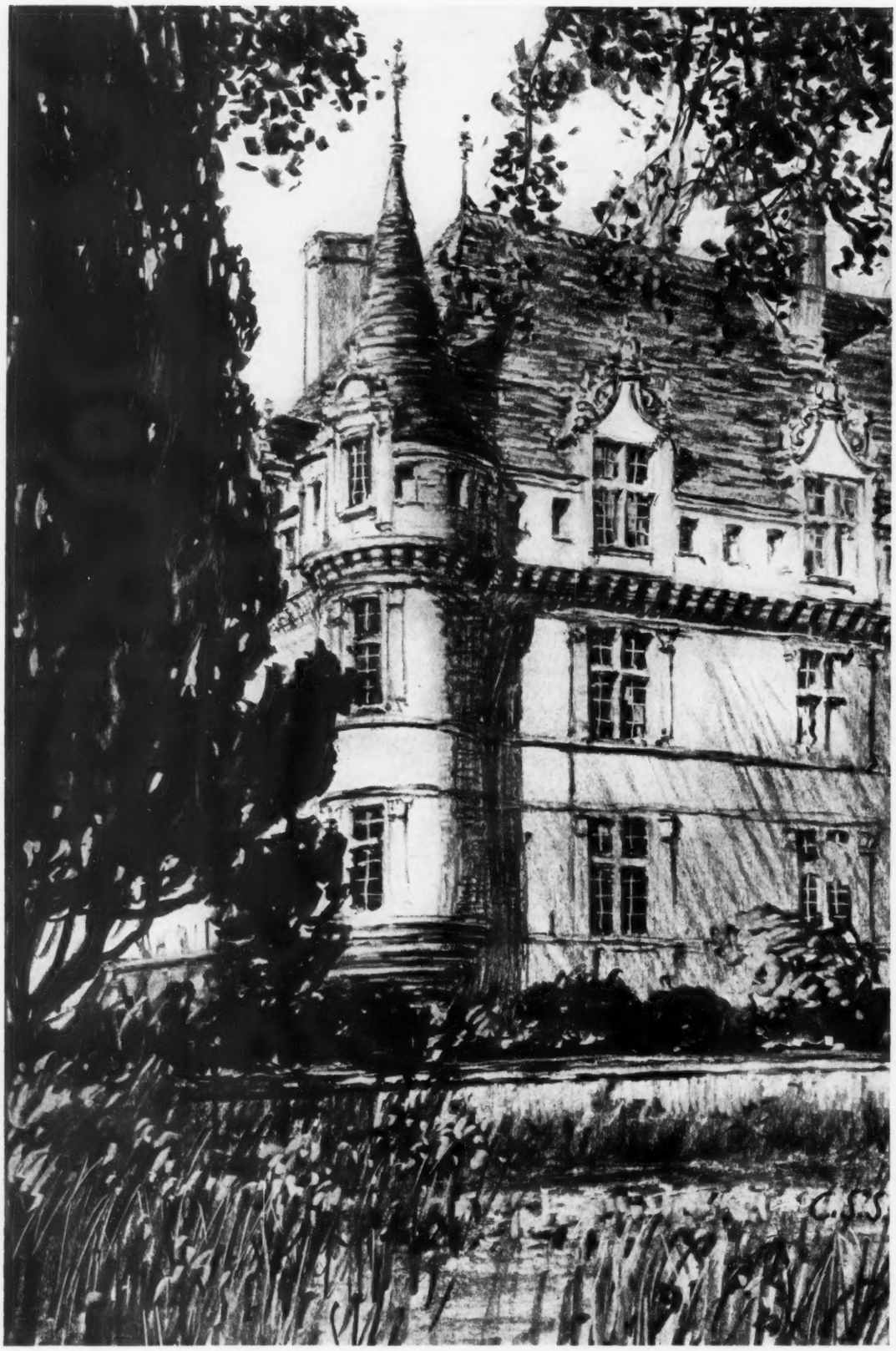
A Group of Sketches By the Late Charles S. Schneider, F. A. I. A.

Charles S. Schneider, who died on March 11, 1932, was one of the leaders of the profession in Cleveland and the Great Lakes District. In all his architectural works which include many public and private buildings, he demonstrated an innate feeling for the fundamentals of good design, fine proportions, discriminating taste for detail, and a general effect of refinement, coupled always with a sound conception of the practical purposes of each structure. In a word, he was the type of well-rounded architect that is the ideal of the profession. It is interesting to note that such a man found pleasure and stimulation from the practice of sketching from nature and from the fine works of architecture of the past. A few examples of his art, selected from among many that were shown some time ago at a Memorial Exhibition in Cleveland, are presented here for the benefit of the younger men of the profession and for the pleasure of his contemporaries who admired his skill.

THE NORTH PORTAL OF CHARTRES

LITHOGRAPH CRAYON SKETCH ON GRAY ROSS BOARD BY CHARLES S. SCHNEIDER

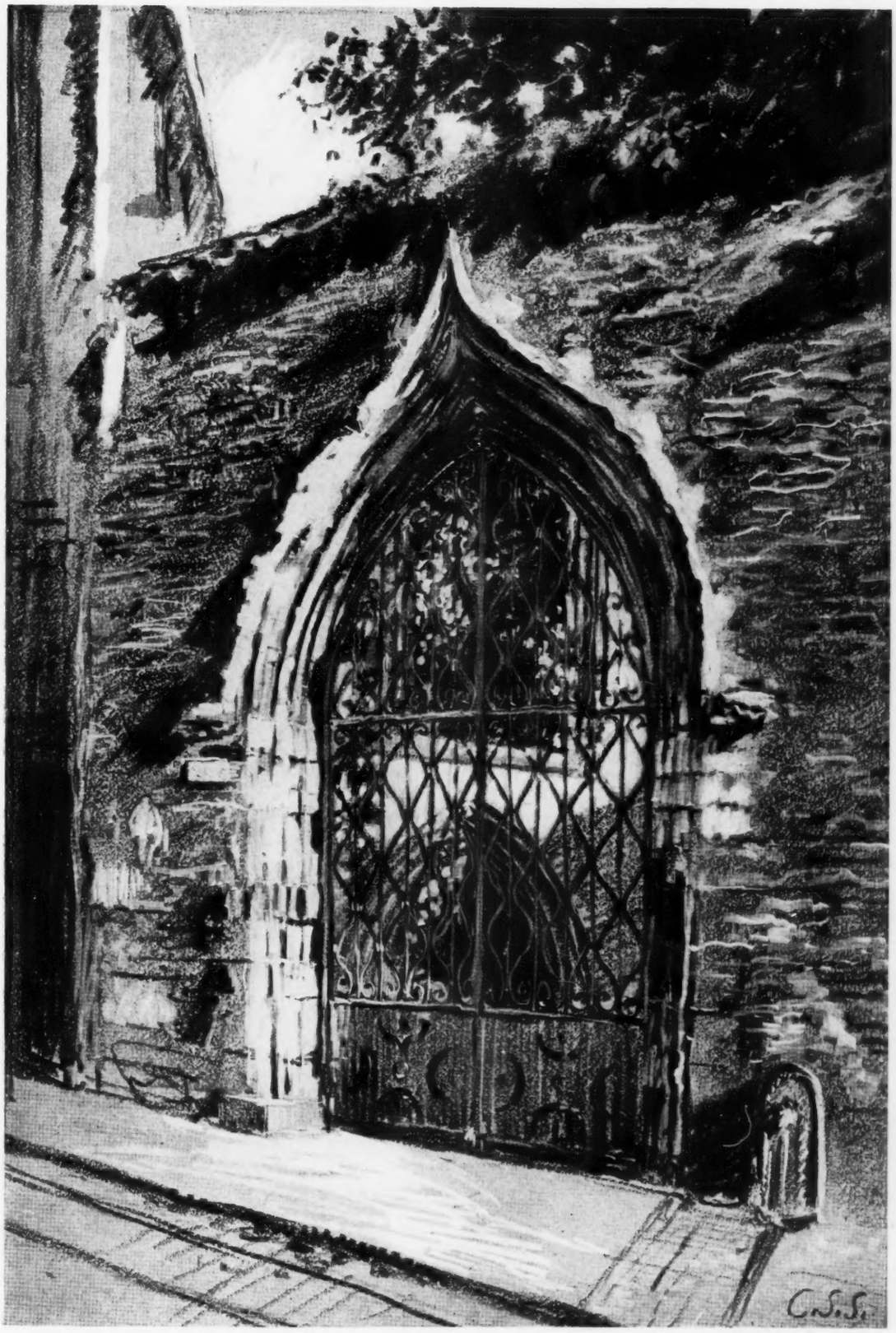
Size of original, 11" x 8½"



THE CHATEAU, AZAY-LE-RIDEAU

LITHOGRAPH CRAYON DRAWING BY CHARLES S. SCHNEIDER

Size of original, 8½" x 12½"



DOORWAY OF THE TOUSSAINT RUINS, ANGERS, FRANCE

LITHOGRAPH CRAYON DRAWING ON GRAY ROSS BOARD, BY CHARLES S. SCHNEIDER

Size of original, 8" x 11¾"

DOMREMY, BIRTHPLACE OF JEANNE D'ARC

LITHOGRAPH CRAYON SKETCH BY CHARLES S. SCHNEIDER

Size of original, 13" x 9½"

Why Not a Little Stair Standardization?

By M. Markle Steen, R. A.

Since each new step toward standardization has been greeted by anguished outcries from a sizable portion of the architectural profession, I presume that I am running a grave risk in even discussing the possibility of any extension of the idea. My fellows, who—well within the memory of the oldest inhabitant—were wont to give their design instincts and preferences free rein in proportioning and dimensioning everything about the building from the cellar window opening to the weather vane, and who now find their activities confined to a joining and blending of an immense variety of die-cut building materials, may possibly regard me as an arrant traitor.

Let me hasten, then, to say that I make no attempt to reduce all stair design to a dreary formula. In many cases, the design of the stair and the nature of the material used are such that the architect may give free rein to his impulses, and design the stair exactly as he pleases. There are many other cases, however, where the predominant factor is utility. And here the adoption of standardized dimensions would still permit the architect all needed latitude, while eliminating a maze of needless complications which attend present practice.

Some time ago, some very interesting articles by Mr. Eichenlaub appeared in this magazine. He analyzed a large number of different stair designs and reported his findings in detail.

These findings showed such a wide range of designs, such a multitude of varied dimensions, as to be almost unbelievable. Unbelievable, that is, when it is remembered that stairs in general are supposed to have a slope that lies between 27 and 36 degrees, and that the sum of riser and tread should be somewhere around eighteen inches—the normal stair stride.

The multitude of combinations harks back directly to the old days of what might be called plastic building materials—that is, materials that could be speedily brought on the job to any desired size and shape. The carpenter, working with wood, could easily and quickly meet, to the smallest fraction of an inch, any demand made by the architect for any tread and riser height. The architect had no need to conform to any standards except those imposed by general good design practice.

Other materials replaced wood. They were generally fabricated as specials, however, and so could be made in any desired size and shape. Thus the architect had no reason to work to any standard dimensions whatever. If the job happened to work out to 10-15/16 inches, there was no need to extend the run 1 or 1½ inches merely to bring the tread to an even dimension. Sometimes, in order to avoid complicated fractions in riser heights, a slightly different height would be used in the flight up to a landing than in the flight from landing to next floor, but this was generally the only concession. In short, the individual riser and tread dimensions were established by working backward from the total rise and run, and were allowed to vary within small limits to an infinite extent, not because the job was improved thereby, but merely because there was no particular reason for conforming to any specific dimension. The stairs looked no better, and served no better, because the tread happened to be 10-15/16 inches instead of 11 inches. It was just that there was no reason for making the treads anything else.

These practices which were permitted by special fabrication of materials were not extensively discouraged by code requirements. For apparently stair codes, like prohibition, are distinguished by being honored in the breach rather than the observance. I cannot lay claim to any intensive analysis; but I venture to say that a large percentage of stairs constructed violate codes in one way or another. In thus, figuratively, thumbing his nose at legal specifications, I do not believe that the architect is actuated by malice or any willful desire to evade the law. Rather it seems that he, like the horse that ran into a tree and raised the suspicion in the mind of the prospective purchaser that he was blind, "can see all right, but just doesn't give a damn."

There can be no strong condemnation of this attitude, once code requirements are analyzed. Take, for example, the Pennsylvania State code covering Class III (Public and Assembly) Buildings. It states that the slope of the stairs shall be between 33 and 36 degrees, and that the sum of riser and tread shall be 17½ inches. A few moments' work with a table of tangents will show that, under this code, the tread width must be somewhere between 10-1/10 inches and 10-6/10 inches, approximately.

The city code covering Public and Assembly Buildings specifies that no riser shall be greater in height than 7½ inches, and no tread shall be less than 10½ inches. The architect who set out to be strictly law-abiding so far as both codes are concerned would find that the width of tread permitted him ranges between 10-5/10 inches and 10-6/10 inches. This means, of course, that the height of riser can be anything between 7 inches and 6-9/10 inches. Imagine the enthusiasm of the designer who found the variation allowed him reduced to a mere tolerance. Examples of this sort could be multiplied, but this seems quite enough to indicate conditions.

As a consequence of all these things, stair design has continued to be, in many cases, a matter of trial and error. Knowing the rise, and the approximate run, the draftsman lays off a slope somewhere within the required limits, assigns an arbitrary riser height, computes the number of treads required and graphically determines the tread width. If it is such as to conform to good design, the job is over. Should it be too narrow or too wide, the draftsman assigns some other values, and tries again.

Now while this method is extravagant of time and effort, it is accepted procedure. Sheer inertia tends to preserve established customs; and had the waste in the drafting room been the only drawback, man's natural tendency to follow charted courses would have been a barrier to change. No manufacturing problems were introduced by existing practice, for all materials were fabricated to spe-

DESIGN TABLES FOR STANDARD STAIR TREAD

11½" STAIR TREAD (EXCLUSIVE OF NOSING) — TABLE NO. 1

NO. OF TREADS	TOTAL RUN	NO. OF RISERS	HEIGHT OF STANDARD RISER UNIT 5¼" MORTAR JOINTS ¼" to ¾" TOTAL RISE	5¾" MORTAR JOINTS ¼" to ¾" TOTAL RISE	6¼" MORTAR JOINTS ¼" to ¾" TOTAL RISE
—	—	1	0′5½″ to 0′6″	0′6″ to 0′6½″	0′6½″ to 0′7″
1	0′11½″	2	0′11″ to 1′0″	1′0″ to 1′1″	1′1″ to 1′2″
2	1′11″	3	1′4½″ to 1′6″	1′6″ to 1′7½″	1′7½″ to 1′9″
3	2′10½″	4	1′10″ to 2′0″	2′0″ to 2′2″	2′2″ to 2′4″
4	3′10″	5	2′3½″ to 2′6″	2′6″ to 2′8½″	2′8½″ to 2′11″
5	4′9½″	6	2′9″ to 3′0″	3′0″ to 3′3″	3′3″ to 3′6″
6	5′9″	7	3′2½″ to 3′6″	3′6″ to 3′9½″	3′9½″ to 4′1″
7	6′8½″	8	3′8″ to 4′0″	4′0″ to 4′4″	4′4″ to 4′8″
8	7′8″	9	4′1½″ to 4′6″	4′6″ to 4′10½″	4′10½″ to 5′3″
9	8′7½″	10	4′7″ to 5′0″	5′0″ to 5′5″	5′5″ to 5′10″
10	9′7″	11	5′0½″ to 5′6″	5′6″ to 5′11½″	5′11½″ to 6′5″
11	10′6½″	12	5′6″ to 6′0″	6′0″ to 6′6″	6′6″ to 7′0″
12	11′6″	13	5′11½″ to 6′6″	6′6″ to 7′0½″	7′0½″ to 7′7″
13	12′5½″	14	6′5″ to 7′0″	7′0″ to 7′7″	7′7″ to 8′2″
14	13′5″	15	6′10½″ to 7′6″	7′6″ to 8′1½″	8′1½″ to 8′9″
15	14′4½″	16	7′4″ to 8′0″	8′0″ to 8′8″	8′8″ to 9′4″
16	15′4″	17	7′9½″ to 8′6″	8′6″ to 9′2½″	9′2½″ to 9′11″
17	16′3½″	18	8′3″ to 9′0″	9′0″ to 9′9″	9′9″ to 10′6″
18	17′3″	19	8′8½″ to 9′6″	9′6″ to 10′3½″	10′3½″ to 11′1″
19	18′2½″	20	9′2″ to 10′0″	10′0″ to 10′10″	10′10″ to 11′8″
20	19′2″	21	9′7½″ to 10′6″	10′6″ to 11′4½″	
21	20′1½″	22	10′1″ to 11′0″		
ANGLE OF SLOPE			25°34′ to 27°33′	27°33′ to 29°29′	29°29′ to 31°20′
SUM OF RISE AND TREAD			17″ to 17½″	17½″ to 18″	18″ to 18½″

10½" STAIR TREAD (EXCLUSIVE OF NOSING) — TABLE NO. 2

NO. OF TREADS	TOTAL RUN	NO. OF RISERS	HEIGHT OF STANDARD RISER UNIT 5¼" MORTAR JOINTS ¼" to ¾" TOTAL RISE	6¾" MORTAR JOINTS ¼" to ¾" TOTAL RISE	7¼" MORTAR JOINTS ¼" to ¾" TOTAL RISE
—	—	1	0′6½″ to 0′7″	0′7″ to 0′7½″	0′7½″ to 0′8″
1	0′10½″	2	1′1″ to 1′2″	1′2″ to 1′3″	1′3″ to 1′4″
2	1′9″	3	1′7½″ to 1′9″	1′9″ to 1′10½″	1′10½″ to 2′0″
3	2′7½″	4	2′2″ to 2′4″	2′4″ to 2′6″	2′6″ to 2′8″
4	3′6″	5	2′8½″ to 2′11″	2′11″ to 3′1½″	3′1½″ to 3′4″
5	4′4½″	6	3′3″ to 3′6″	3′6″ to 3′9″	3′9″ to 4′0″
6	5′3″	7	3′9½″ to 4′1″	4′1″ to 4′4½″	4′4½″ to 4′8″
7	6′1½″	8	4′4″ to 4′8″	4′8″ to 5′0″	5′0″ to 5′4″
8	7′0″	9	4′10½″ to 5′3″	5′3″ to 5′7½″	5′7½″ to 6′0″
9	7′10½″	10	5′5″ to 5′10″	5′10″ to 6′3″	6′3″ to 6′8″
10	8′9″	11	5′11½″ to 6′5″	6′5″ to 6′10½″	6′10½″ to 7′4″
11	9′7½″	12	6′6″ to 7′0″	7′0″ to 7′6″	7′6″ to 8′0″
12	10′6″	13	7′0½″ to 7′7″	7′7″ to 8′1½″	8′1½″ to 8′8″
13	11′4½″	14	7′7″ to 8′2″	8′2″ to 8′9″	8′9″ to 9′4″
14	12′3″	15	8′1½″ to 8′9″	8′9″ to 9′4½″	9′4½″ to 10′0″
15	13′1½″	16	8′8″ to 9′4″	9′4″ to 10′0″	10′0″ to 10′8″
16	14′0″	17	9′2½″ to 9′11″	9′11″ to 10′7½″	10′7½″ to 11′4″
17	14′10½″	18	9′9″ to 10′6″	10′6″ to 11′3″	
18	15′9″	19	10′3½″ to 11′1″		
ANGLE OF SLOPE			31°46′ to 33°41′	33°41′ to 35°32′	35°32′ to 37°18′
SUM OF RISE AND TREAD			17″ to 17½″	17½″ to 18″	18″ to 18½″

cial order—and so there was no motive for change in this quarter.

But on the job came complications. There might be half a dozen or more different sizes of stair material on the ground, varying in size only by small fractions of an inch, impossible to separate by eye alone. Workmen, through ignorance, carelessness, or willful negligence, often selected the wrong sizes for given flights. Small differences could usually be taken care of by varying the mortar joints in setting. Frequently, however, the last flight to be constructed found the only tread material left so far off from requirements that it could not be used.

I imagine there is hardly an architect who has not had an experience of this sort. The resultant cost and trouble is all the more regrettable because it is entirely unnecessary. For a large proportion of ordinary stairs, built of stone, slate, structural clay, marble, brick, alberine, or similar materials which are set with mortar, could be constructed of standard units, without affecting the latitude of design to any extent.

At first glance, this statement seems extreme. A glance at the accompanying tables, however, will furnish ample evidence of the truth. The first table deals with an 11½″ standard tread (exclusive of nosing), in three standard heights—5¼″, 5¾″, and 6¾″. A ¼″ mortar joint is assumed to be the minimum practical, while the maximum is set at ¾″. Thus any riser height from 5½″ to 7″, in the smallest fractional variations, can be obtained.

It seems odd that a stair with a fixed tread, and with the only variation possible a change in riser height of 1½ inches, could offer much latitude to the designer. Yet the table shows that with this single width of tread and three standard heights, a stair can be constructed with any slope between 25°30′ and 31°20′. This possible variation in slope may be utilized to meet some specified slope condition; or it may be utilized in obtaining any of a variety of total runs, that will best meet given needs.

Suppose, for example, that you were constructing a flight with a total rise of 10 feet. The fourth column shows that this can be obtained with a standard riser unit 5¼″ high by using a 9/16 inch (approximate) mortar joint. This—as columns 1, 2, and 3 show—will give a stair with 20 treads, a total run of 19′2″ and 21 risers. Or this same riser with a ¾ inch mortar joint will build a stair with 19 treads, a run of 18′2½″ and 20 risers. Or the same 19 tread stair can be built with the 5¾ inch riser using a ¼ inch mortar joint.

If less run is required, the 5¾ inch riser with a 9/16 inch (approximate) mortar joint will build a stair with 18 treads, a total run of 17′3″ and 19 risers.

The standard 6¼ inch riser with a ⅜ inch (approximate) mortar joint will build a stair with 17 treads, a total run of 16′3½″ and 18 risers.

Thus with this single tread width, a variation of from 17 to 20 treads; a variation of from 16′3½″ to 19′2″ in the total run; a variation of 18 to 21 risers; is possible. This, it seems, should provide all the latitude required. All, in fact, of the latitude possible. For no matter what variations the architect wishes to introduce, there are limits in the angle of slope and in the sum of riser and tread beyond which he cannot properly go.

In proving the practicability of standard dimensions in stair material, the table also demonstrates its value in the initial design of a stair. It eliminates completely the necessity for any hit-or-miss, trial and error methods. By taking off from the drawing the total rise, and the preferred run, the draftsman can—without touching pencil or paper—determine the exact dimensions required.

If the angle of slope can be anywhere between 25°30′ and 31°20′, the draftsman can find, in columns 4, 5, or 6, the total rises which meet the specific condition he is interested in, locate in table 2 the corresponding runs, and select the specific run which will work in best with his problem. If there are any limitations on slope, he can select his total rise only from the column from which the required slope is yielded. If there is a restriction on the sum of rise and tread, here, again, he will work only with the column in which the required sum appears.

Even when stairs are being made up from fabricated materials which are not set in mortar, the table still presents an easy way of doing the preliminary design work. The dimensions of the riser heights to be ordered will, of course, equal the height of unit given, plus the height of mortar joint required.

The second table shown gives data on a standard 10½ inch tread (exclusive of nosing). This tread will of course build a steeper stair, ranging up to 37°18′ slope, and so its application is not as broad. There are many cases, however, where the use to which the stairs will be put does not impose such strict requirements, and where the 10½ inch tread will be satisfactory in use and a lifesaver so far as working in the available space is concerned.

Please understand that I hold no brief for complete standardization of stair design. There will always be countless jobs where any attempt to confine the artistic expression of the designer within the limits imposed by a standard stair unit would be unforgivable. But there are also many cases where economic considerations prevent the stairs from being anything than strictly utilitarian. And in applications of this kind, I believe that standardization along the lines mentioned will save time, eliminate errors, and cut expense.

THE DRAFTSMEN ORGANIZE!

(Continued from page 430)

exploitation by making proper and necessary provisions for the higher bracket of men and women, who constitute over ninety per cent of the employees in the Architectural and Engineering fields, above the grade covered by the minimum wages provision of the Act.

It is readily to be seen that it will be futile for a minority of the practicing architects to attempt to carry out a Code of fair practice, no matter how conscientiously applied, if the majority of the architects are not compelled to observe payroll stipulations which automatically force them to observe at least a degree of fair competition.

You gentlemen of the A.I.A. know that whereas you consider six per cent as the minimum fee, most of the unprincipled competitor architects will *steal* the job for as low as one per cent or less. This they can only do mainly at the expense of the technical men who actually carry out this work for them. In the Architectural profession these architects are comparable to the well known "chiselers" in the building industry and the two actually work hand in glove. As this type of architect, unfortunately, exists in quite large numbers, it behooves the members of the A.I.A. to step a point in advance of the literal requirements of the National Recovery Act and develop a workable scale of compensation for employees, which will come somewhere near to assuring fair practice among architects.

The Federation of Architects, Engineers, Chemists and Technicians has drawn up a Code of fair practice as regards compensation and hours of work, and has presented this in the required form of brief to the N.R.A. administrator. A summary of same is as follows:

Maximum hours of work, thirty hours per week.
Minimum pay for seniors, sixty-five dollars per week.
Minimum pay for juniors, forty-five dollars per week.
Minimum pay for technical assistants, thirty-five dollars per week.
Minimum pay for apprentices, thirty dollars per week.

These classifications and other details are defined in our brief in detail.

As regards hours of work, taking the Metropolitan Zone of New York as standard, inasmuch as it is recognized as the Architectural center of our country, we consider this a fair reduction of the hours of work, as urged by the N.R.A. from the customary work week of 35 to 38 hours generally observed in this section in the past.

As regards scale of compensation, the rates we recommend are from 25% to 35% below the prevailing rates of 1930.

We feel that the technical men and women are entitled to a return somewhere nearly commensurate with the importance and value of their highly skilled service to society, which will enable them to live, and support their families in a manner permitting them to hold their heads erect among men, rather than bowed in shame and degradation due to cruel exploitation.

Inasmuch as a great many technical men are employed in the building industry and practically every other industry, we are pressing our demands equally upon all of these industries.

We appreciate our former fine relations with the A.I.A. and sincerely hope that they will continue in the future. We, therefore, call upon the A.I.A. to work out this problem with us just as though it was a problem handed to us in our professional capacity, and, with the result obtained, bring about the fair competition so much desired by us both.

In addition we ask for the moral support of the A.I.A. in bringing about similar desirable conditions in the interests of the Engineers, Chemists and Technicians in the allied professions and industries, for it may well be said that we are brothers in profession.

The A.I.A. may or may not realize it, but its decision in this matter will have enormous and far-reaching effect, as we know from information in our hands that it is being watched very closely by the allied professions, who will use the A.I.A.'s action as a precedent.

The fidelity and loyalty of the technical men to our country, profession and employer has never been questioned, and in return we ask for no more than common justice and the application of that square deal which our great President promised and recommends.

We thank you Mr. Administrator and gentlemen of the A.I.A. for your kindness in giving us your attention, and earnestly hope and trust that you will adopt our requests.

* * * *

The aim of this organization is to build a strong national federation of all technical organizations for the present and future safeguarding of the members' economic rights and interests. The Federation will consist of various units in the various professions. Thus, Architectural men will join the Architectural Unit, Engineering men will join the various Engineering Units, Chemists will join the Chemical Unit, etc.

Each unit will have its own Constitution and By-Laws, and the unit will be the member in the Federation. In this way, specific problems peculiar to any one particular unit will not be confused or entangled by misunderstanding. The governing body of the Federation will be made up of representatives from the various units.

At the present time, various committees are intensely active on drafting the constitution, organization, etc. For the time being, as we are still in the formative period, individuals are members directly in the Federation. As the various units are formed and organized, the individual's membership will be transferred to his particular professional unit, in the particular region where the member resides.

We invite and urge all technical men throughout the country to join our organization direct, and help to organize the regional units. In all cases we desire opinions and suggestions. The writer will be very glad to receive all correspondence, which should be addressed as follows: Henry Sasch, c/o Architects Samples Corporation, 101 Park Avenue, New York.

We endeavor to answer all individual letters as promptly as possible. As we are a very new organization, and mostly unemployed, our finances are slim, and expenses high, but detailed information when requested will be sent as soon as physically possible.

For the information of those wishing to join immediately, the dues are as follows: Unemployed, 10 cents per month; Earning under $30 per week, 25 cents per month; Earning over $30 per week, 50 cents per month. There is no initiation fee at present.

Here and There and This and That

The Architects' Code and the Draftsman

In response to our invitation of last month we have received a number of letters, from draftsmen in various sections of the country, discussing the matter of a possible draftsmen's organization, truly representative and qualified to speak for the brotherhood of pencil pushers in connection with the N.R.A. Code for Architects. We have printed elsewhere in this issue an article describing one organization that is in process of being formed. Whether or not this is the best possible form of organization for draftsmen, we are not prepared to say, though we would prefer to see the architectural men preserve their professional identity as distinct from the engineers, chemists, and technicians. However, things are moving rapidly, and we shall all have to be guided by developments from day to day. The pages of PENCIL POINTS are open to architects and draftsmen alike for free discussion of the problems that beset them both in these exciting times. The following letters have some bearing on the subject and are presented for the consideration of all parties.

From James Wood of Fallston, Md.

TO THE EDITOR OF PENCIL POINTS,
DEAR SIR:

"The Engineers have stolen the show from the Architects by recognizing the employee as well as themselves in their Code. This is odd! Yet Engineers have ever instilled in me a sense of fair correctness, whereas Architects have imparted generally an indecisive fear of everything, even themselves. I say this although I am, or rather was, an architectural draftsman for years in your fair city; now I'm slowly starving on my farm with only a crop of weeds, taxes, and bills that are still growing after 15 months of my constant cursing.

"PENCIL POINTS reaches most draftsmen, has been the first to see the disaster facing the draftsman, therefore PENCIL POINTS is the logical meeting place of the pencil-pushers. I do not believe a series of Local groups to be later united Nationally is the answer. As for that 'close cooperation between Architects and Draftsmen,' what happened to the Architects' cooperation when their Code was written? The Architects completely forgot the man who makes their own and their Clients' wishes come true without falling apart in their hasty-fear-for-self. Yet Unionism does not spell harmony, and harmony must be there to get the job out on time and keep it looking like a job.

"Why not a National Draftsmen's Code? Why not begin Nationally and end Locally? It wouldn't be an NRA but it could become an established club of goodfellowship for board-leaners. Based upon the Construction Code and the Code for Engineers I believe it would be workable if each individual signer got out his honor and lived up to his signature. 'If' is going to be in any plan and I do not see any way to eliminate it. The 'IF' in the draftsman's code would be based upon his fair treatment of his fellow draftsman, for fair dealing is the basis of all the Codes.

"PENCIL POINTS could start such a movement easily by publishing a Code with an application blank upon the opposite side, or a group of draftsmen who felt like a bit of philanthropic gambling could do the same. Each signer who was employed to contribute twenty-five cents towards expenses—unemployed signers admitted free. Establish a headquarters in New York City and permit Local groups everywhere. All to be run similar to an Atelier Club with no paid employees of any kind, each group independent except for the spirit of the organization, and each group self-sustaining financially. Dues of ½ of 1% of each employed draftsman's salary to be payable quarterly would permit plenty of propaganda printing and buy the postage for same. These Clubs could also act as employment bureaus and thus save many draftsmen part of their salary.

"Such a Code would have to be worked out by a group preferably from different offices or even different towns. Any outline should include:

"*Draftsman*, an employee engaged in Architectural work in any office meeting the Code requirements.

"No employer or firm member should qualify or be admitted. Draftsmen have never had a get-together without one or more 'master-voices' present, this would at least break one rule and possibly the monotony.

"A minimum wage of seventy-five cents per hour.

"A maximum of 35 hours per five-day week.

"Articles IV and V of the Engineer's Code, with altered phraseology, could and should be adopted almost 'as is.' (See Engineering News-Record, Sept. 7, 1933.)

"The hours should be for normal office routine. Where overtime is necessary it should be paid for at time-and-a-half plus one hour for dinner money.

"I believe most Architects would greet such a movement favorably; some would object but a bit of real boycotting would cause them to change their minds.

"The working out of details for the above requires concentrated harmony of group brains and is much more difficult than finding a place for the cellar stair.

"One parting shot I almost forgot, there should be a clause isolating an office that does not pay in full at least every thirty days. I feel very strongly upon this point as I have been waiting two years for four hundred and seventy-six dollars which I labored for. It isn't much but I'd think myself wealthy if I had it now. I don't know if I'll live long enough to collect a cent."

From Jack Silberman of New York

THE EDITORS OF PENCIL POINTS
GENTLEMEN:—

"Yes! I am heartily in favor of your idea of having a representative group under enlightened leadership make audible the feelings and ideas of the architectural draftsmen of this country. I have been a draftsman for six years. Being young, I still retain my enthusiasm for architectural work. Being unemployed for over a year, I have not lost hope yet in architecture. I know there are hundreds, like myself, helpless in the sea of depression. We hate the thought of giving up our life work even though the future looks darker than ever.

"Now that help is being extended to all others, why not someone to speak for the least organized of any professional group, to the NRA Board or any Board that can help us get jobs, so that we too can live as Americans should live. It seems that the Editors of PENCIL POINTS are the only ones that are interested in the welfare of the draftsmen of this country— so let's hope your publicity of our plight will remove it—before it is too late."

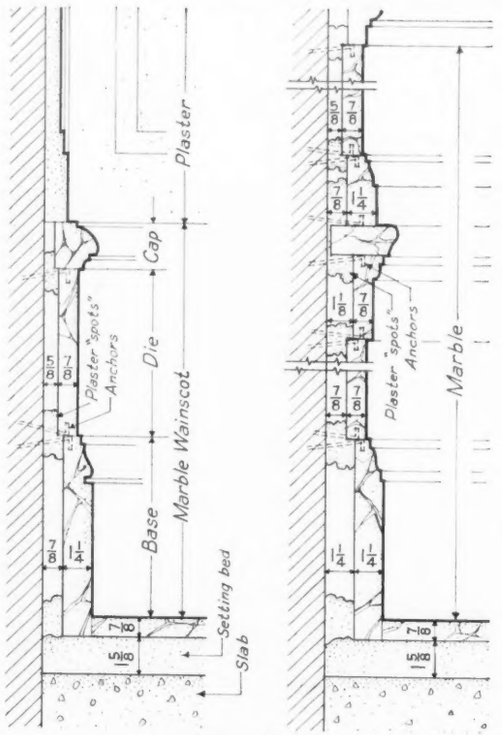
(Continued on page 472)

DRAFTSMAN'S DATA SHEETS

MARBLE WAINSCOTS

Prepared by Don Graf, B.S., M.Arch.

Sheet No. F10c PENCIL POINTS Oct. 1933



1½" is the very least space that should be figured from rough wall face to finish marble face for wainscot or ashlar. Some of the marbles containing a large number of natural faults require reinforcing liners and need a minimum of 2½". Concealed anchors are used for fastening the marble to the rough wall. These are usually of 9 gage copper, brass, or aluminum wire. The number of anchors to be used should be left to the discretion of the marble contractor. The space behind the marble should never be filled solid with plaster of paris, spots only allowing for contraction and expansion and thus preventing cracks.

Courtesy National Association of Marble Dealers.

THE DRAFTSMAN'S NOTEBOOK

Four *Data Sheets* appear each month, giving those half-remembered facts recurrently needed at the drafting table, in succinct and handy form for finger-tip reference. Readers are urged to make comments and criticisms to Don Graf, PENCIL POINTS, 330 West 42nd St., New York City.

ANSWERS TO CORRESPONDENTS

B. N. S., St. Louis—Sorry that I haven't the dope that you ask for. It will be kept in mind as a future possibility, but this will likely be too late to help you.

J. A. P., Washington—Thanks for the print. Data on windows, both steel and wood, is on the way.

R. A. W., Chicago—Temperature ranges will appear in the Heating section (E2) but the other mentioned subjects seem a little out of character with the *D. S.*

J. H., Jersey City—Thanks.

E. B., New York—Like the professor who poured the maple syrup down his back and scratched the pancakes. O. K.

G. W. C., Sackville—You are very kind in your praise.

F. W. K., Brooklyn—Write again if everything isn't clear. Was I right about the lamp shades?

TESTIMONIAL DEPARTMENT

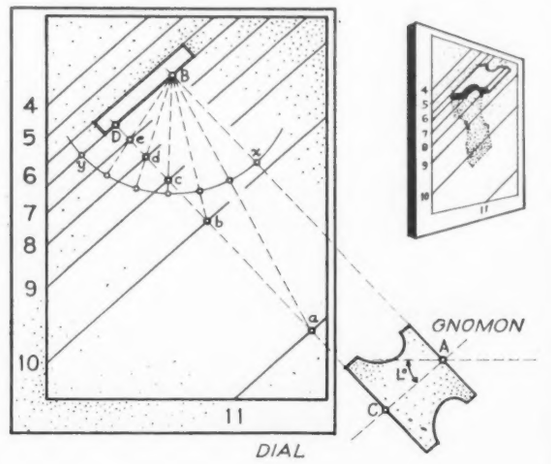
Not one cent was paid for the following statements, as they say in the cigarette adver-

DRAFTSMAN'S DATA SHEETS

EAST VERTICAL SUNDIAL

Prepared by Don Graf, B.S., M.Arch.

Sheet No. F12e PENCIL POINTS Oct. 1933



Through a convenient point *A* draw the line *AC* making an angle *L°* with the horizontal which is equal to the latitude of the place. The distance *AC* is the height of the gnomon, which may be of any desired design so long as the top and bottom edges remain as parallel planes.

Draw parallel lines *AB* and *CD* at right angles to *AC*, making *BD* parallel to *AC*. Draw a line parallel to *BD* at a distance from it equal to the thickness of the gnomon. These two lines are the six o'clock marks on the dial, and locate the position of the gnomon.

From point *B* describe a quadrant of convenient radius as *xy*. Divide the quadrant into six equal parts of 15° each. From point *B* draw lines to the five division marks until they intersect line *CD*. Lines drawn parallel to *BD* through points *a*, *b*, *c*, *d*, and *e*, thus found on *CD*, are the 7 to 11 o'clock dial marks.

If it is desirable to show half or quarter hour marks the quadrant is divided into 12 or 24 equal parts, these intermediate dial marks then being found in the same manner as the hours. Five- or one-minute divisions can then be made accurately enough on the dial face by eye.

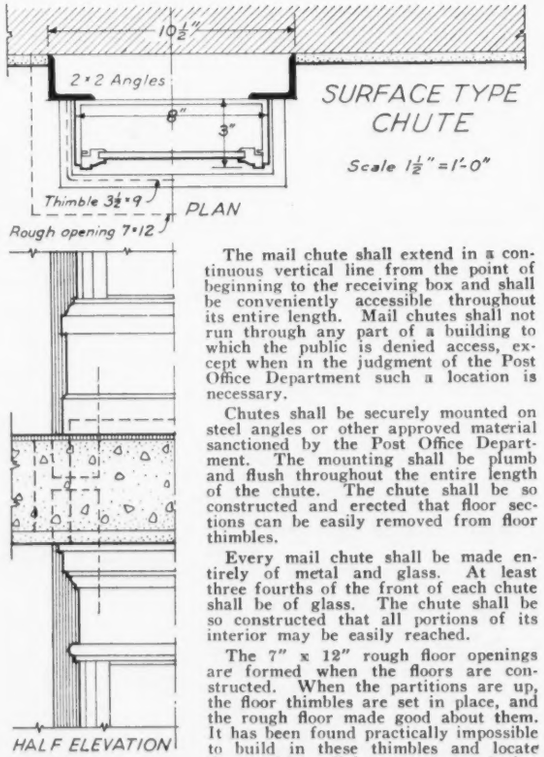
The 5 and 4 o'clock marks are symmetrical about the gnomon with the 7 and 8 o'clock marks. The dial plate must be set exactly vertical and facing due east.

DRAFTSMAN'S DATA SHEETS

SURFACE TYPE MAIL CHUTE

Prepared by Don Graf, B.S., M.Arch.

Sheet No. **F13a**
PENCIL POINTS
Oct. 1933



The mail chute shall extend in a continuous vertical line from the point of beginning to the receiving box and shall be conveniently accessible throughout its entire length. Mail chutes shall not run through any part of a building to which the public is denied access, except when in the judgment of the Post Office Department such a location is necessary.

Chutes shall be securely mounted on steel angles or other approved material sanctioned by the Post Office Department. The mounting shall be plumb and flush throughout the entire length of the chute. The chute shall be so constructed and erected that floor sections can be easily removed from floor thimbles.

Every mail chute shall be made entirely of metal and glass. At least three fourths of the front of each chute shall be of glass. The chute shall be so constructed that all portions of its interior may be easily reached.

The 7" x 12" rough floor openings are formed when the floors are constructed. When the partitions are up, the floor thimbles are set in place, and the rough floor made good about them. It has been found practically impossible to build in these thimbles and locate them with sufficient accuracy during the rough construction. For twin chutes the rough opening is 7" x 21".

The foregoing requirements apply to recessed and twin chutes with the same force as to the single surface type.

Data on this and the following Mail Chute Data Sheets have been prepared in conjunction with the Cutler Mail Chute Co., and conform with the Postal Laws and Regulations, Section 943, as amended and issued by the Post Office Department, March 1, 1933.

tisements: "Here is hoping that the *Data Sheets* continue and develop into a catalog of goodly proportions. They are so much more convenient than digging into stacks and stacks of miscellaneous reference books." And again: "I must congratulate you on your *Data Sheets* . . . and hope your supply may continue far into the future."

Do I hear any Bronx cheers or Amens?

DATA SHEET NO. F10c. *If a good job of marble setting is wanted, sufficient space must be allowed for the construction.*

DATA SHEET NO. F12e. *This completes the sundials which face the cardinal points of the compass. Dials that decline from these points, or incline from the vertical, are somewhat more complicated to construct and are not planned for the Data Sheets unless the demand becomes insistent.*

DATA SHEET NO. F13a. *In which appears those dimensions and facts needed by ye draftsman in the correct planning of a mail chute according to the amended Post Office Laws and Regulations.*

DATA SHEET NO. B1b. *Here is a sheet for our section on Mechanics. Although local building codes will vary somewhat from these figures, they have been taken from reliable authorities and represent fair values.*

DRAFTSMAN'S DATA SHEETS

DEAD LOADS OF BUILDING MATERIALS

Prepared by Don Graf, B.S., M.Arch.

Sheet No. **B1b**
PENCIL POINTS
Oct. 1933

ROOFS

5-ply felt and gravel	(pounds per sq. ft.)	6
4-ply felt and gravel		5
3-ply ready roofing, composition roofing		1
25/32" softwood sheathing		3
Wooden shingles		2
¼" slate		10
Flat clay shingle tile		15
Clay Spanish tiles		10
Cement tile		16
2" book tile		12
3" book tile		20
Skylight, G. I. frame, glass		5
Sheet metal		2

Weight of trusses in pounds per square foot of horizontal projection of roof supported, according to Hool, "Elements of Structures" (McGraw-Hill), is equal to $C(1 + L/10)$, in which;
C = 0.50 for wood trusses, 0.75 for steel trusses.
L = Span of the truss in feet.

CEILINGS

Lath and ¾" plaster	(pounds per sq. ft.)	8
Suspended metal lath and plaster		10
Painted sheet metal		3

FLOORS

25/32" hardwood finish flooring	(pounds per sq. ft.)	4
3/4" hardwood finish flooring		2
25/32" softwood underflooring		3
Cement or terrazzo finish per 1" of thickness		12
Floor tile per 1" of thickness		12
3" creosoted wood block flooring		15
Solid concrete slab, per foot of span		6
Dry cinder concrete fill per 1" of thickness		7
Cast iron radiation per sq. ft. of surface		7
Asphalt mastic flooring 1½" thick		18
Softwood joists, per foot of span		⅓
2 x 4 spruce sleepers and dry cinder concrete fill		10

WALLS AND PARTITIONS

Stone or gravel concrete	(pounds per cu. ft.)	144
Cinder concrete well tamped		108
Cinder concrete not tamped		60
Ordinary brickwork		120
Hollow tile masonry		48
Sandstone rubble		132
Sandstone ashlar		144
Limestone rubble		144
Limestone ashlar		156
Granite rubble		156
Granite ashlar		168
3" gypsum block	(pounds per sq. ft.)	10
4" gypsum block		12
5" gypsum block		14
½" plaster on masonry		5
¾" lath and plaster		8
4" hollow plaster partition		22
2 x 4 studs with plates, average height		1⅔
2 x 6 studs with plates, average height		2½

From George Povelsen of Los Angeles

To the Editor of Pencil Points
Dear Sir:

"I am taking this liberty in writing regarding the N.R.A. Code for Architects and Structural Engineers. I am an architectural draftsman and have worked at above profession for the last fifteen years. Since 1930 I have not been able to secure employment at this profession for the simple reason that there has not been much construction work going on, and without a doubt the Architectural profession has suffered more than any in the past few years.

"I believe there are several thousand draftsmen out of work that would like to see the architects join the N.R.A. I know of architects in California who are preparing working drawings for Federal jobs—such as Post Offices and other buildings, and they, and they only, employ a small staff of draftsmen and engineers in preparing the plans for such buildings. These men work day and night and even holidays in order to get the drawings finished so that work can commence as soon as possible according to Roosevelt's Recovery Program.

"The Architect who has been commissioned such a job could just as well employ a larger staff of draftsmen working only 7 hours a day and get better work out of these men. Some Architects say, when approached by draftsmen for work, 'I am sorry, can't use you, I have no more drafting boards to put additional men to work.' Seems to me there are plenty of drafting boards on the market and plenty of vacant offices to be had if they really wanted to help us unemployed.

"The Architects on Government buildings are enjoying the same fee as they used to receive during the construction boom time, but the draftsmen have to work for what they can get, sometimes much less than building mechanics or even common labor receive in wages. The architectural draftsman and designer must have many years of experience before he is able to do the work required of him by the Architect. A lot of us draftsmen have spent time and money in colleges to educate ourselves in architecture.

"Are we not entitled to some fair compensation, and consideration. My personal experience in the West as a draftsman and designer has been based on so much money per hour and charged against the particular job I was working on. Exactly the same way as a contractor would pay off his laborers. So we draftsmen working on hourly basis cannot be called executives except the chief draftsman or job captain in charge of the office staff.

"I have recently looked through the late issues of Pencil Points to see if anyone has brought up the above question. Have not to date been able to find anything regarding this. Unfortunately I now have to go to the library for Pencil Points, being unable to purchase same as heretofore. I meet many of my colleagues there doing the same thing. This you realize is due to the fact of being out of work and unable to subscribe to our magazine.

"Mr. Whitehead, is there not some way that our magazine can be of some help in influencing the Architects to join up with the N.R.A. and give us 'pencil pointers' a decent break?"

From Milford H. Patterson of York, Pa.

To the Editor of Pencil Points
Dear Sir:

"Your article 'And What of the Draftsman' in the September issue of Pencil Points magazine proved very interesting to me. I have given careful thought to the idea of organizing the Draftsmen and feel that it would be most beneficial to them.

"It is evident that our profession has been greatly affected during the present financial crisis, due to the fact that people are substituting the crowded quarters of old buildings for the more spacious ones they would seek in normal times. Their slogan becomes 'We do not need an Architect,' thus causing the Architect's place in building operations to diminish to such a degree that many Draftsmen are unable to maintain a livelihood in their profession and can seldom find employment in other fields.

"I would say that the best possible organization of Draftsmen would be the formation of an organization similar to the American Institute of Architects, meeting, instead, the needs of the Draftsman. Membership to this organization should be, I think, on the recommendations of A.I.A. members only, for those Architects in sympathy with the A.I.A. are those whose standing is unquestioned and their employees should strive to attain the same fine standing.

"Perhaps several members of the A.I.A. would be generous enough to head such an organization until it becomes a working unit and there are elected officers to fulfill their duties, embodying all the fine principles of the Institute. There should be Chapters formally organized with officers, meetings, committees, etc.

"Anyone with any knowledge of the A.I.A. can readily see that such an organization would not be difficult to establish.

"This effort, I am sure, would be greatly appreciated and endorsed by those who are just 'Tagging' along in the profession. It would create a vital interest to the profession in the smaller cities, which does not seem now to exist, and at the same time promote a cooperative interest with the large centers.

"It is my whole interest to be of service to the profession helping, perhaps, in a small way to give prestige to this, 'The Most Triumphant of the Arts,' as Goodhue has said."

The Housing Study Guild

The Housing Study Guild has recently been formed to focalize the study of current problems in our national housing program, and to serve as a clearing-house for information within its field of interest. We quote from a statement by Mr. Albert Mayer.

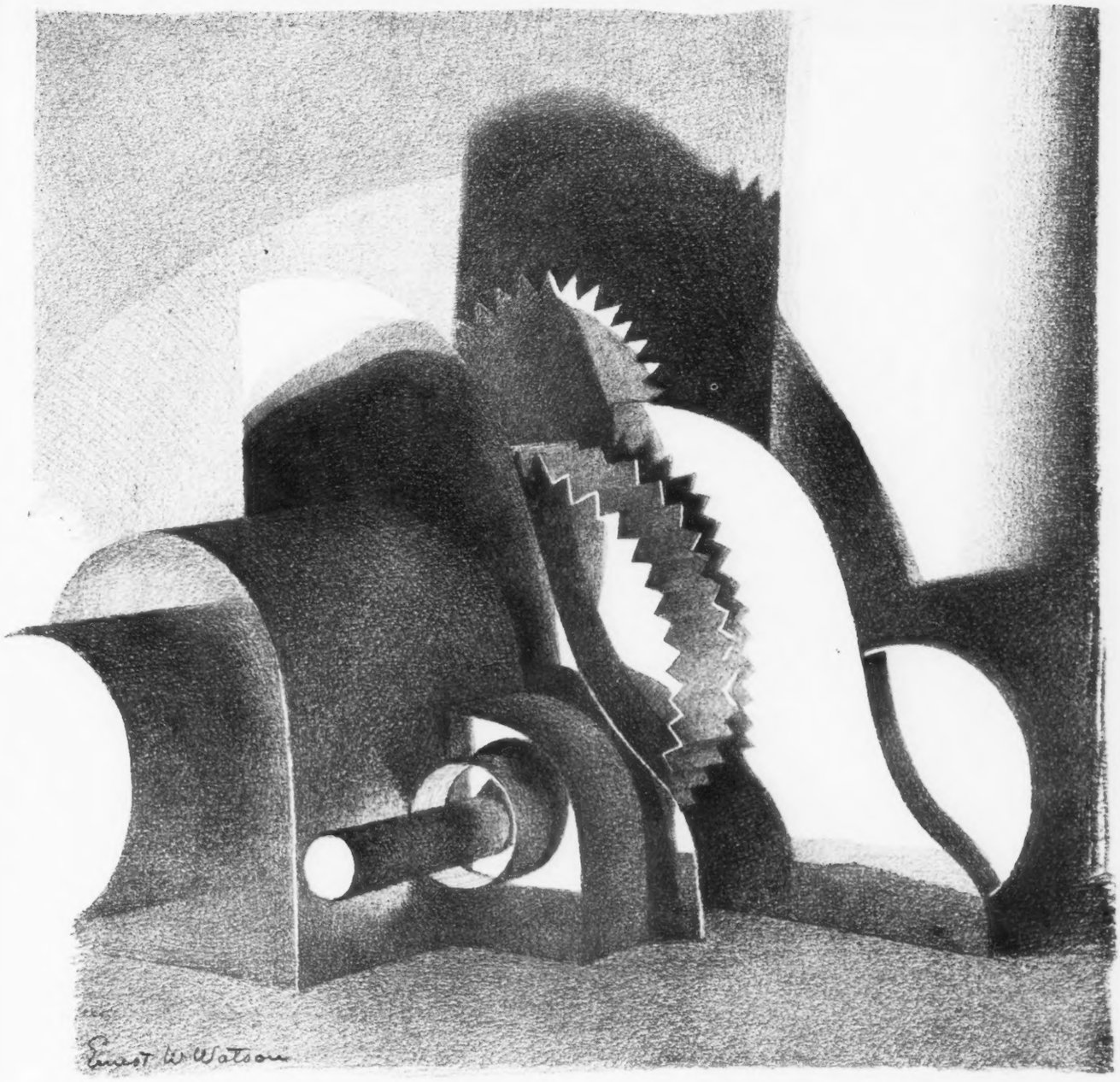
"It is a truism to say that the next phase of large-scale construction in this country must lie in the field of housing. In fact, due to government stimulation and assistance, an unprecedentedly sudden expansion is imminent in this field.

"An important immediate requirement for an adequate housing program is a body of technical information and a center for disseminating it. Only the beginnings of such a technique exist in America, and what does exist is largely in the hands or minds of a relatively few individuals. To meet this situation the Housing Study Guild has been formed. Its active sponsors are Henry Wright, Lewis Mumford, Carol Aronovici and Albert Mayer. Among those who are helping to direct the Guild's technical studies are Clarence S. Stein, Frederick L. Ackerman, Henry S. Churchill, William Lescaze and Catherine K. Bauer; other architects and workers in related fields will be called upon as the work proceeds. The studies will be carried out largely by a group of cooperating younger men and women.

"Our work is two-fold: to collect and collate existing information; and to formulate and investigate the pressing problems that confront the planners of new housing.

"There are some places to be filled in the study-group, and we shall be glad to consider applications for them. Letters of application may state the usual particulars, and in addition should explain the applicant's professional background and training, together with the nature of his interest in housing.

"Correspondence may be addressed to The Housing Study Guild; Allan A. Twichell, Executive Secretary, 400 Madison Avenue, New York."



ELDORADO
THE MASTER DRAWING PENCIL

THE Machine Age! Ernest Watson symbolizes it in this Eldorado sketch from the paper world he is building, scenes of which appear in *Pencil Points* every month.

The object of this paper world, as has been previously explained, is to suggest a pleasant means by which to improve your pencil technique. Cut out models of white paper. Arrange them in abstracts or in approaches to reality, such as this. Then focus a bright light on them. A 200-watt lamp is excellent, but a lamp of lesser wattage will do. Move the light until you get the arrangement of shadows you want.

Then sharpen up your Eldorados — degrees 3B, 2B, B, F, H, 2H, 3H. You'll need the constant degrees of lead that you find in Eldorado, the master drawing pencil. Because none of the tones are to be rubbed or stumped. Keep the rhythmic, directional flow of the pure pencil strokes. The effect is much more pleasing.

It is quite proper, however, to use a kneaded eraser. This comes into use in picking off tones that have had too much weight put behind them. Try an Eldorado Abstract yourself. It's a profitable pastime. Joseph Dixon Crucible Company, Dept. 167-J, Jersey City, New Jersey.

SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale, or desiring to purchase books, drawing instruments, and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed free of charge.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all.

SPECIAL NOTICE TO ARCHITECTS LOCATED OUTSIDE OF THE UNITED STATES: Should you be interested in any building material or equipment manufactured in America, we will gladly procure and send, without charge, any information you may desire concerning it.

Notices submitted for publication in these Service Departments must reach us before the fifth of each month if they are to be inserted in the next issue. Address all communications to 330 West 42nd Street, New York, N. Y.

THE MART

Herman T. Shapiro, 4210 Tower Avenue, St. Bernard, Ohio, would like to obtain copies of PENCIL POINTS from January through May, 1927. For these he will exchange the following: April, 1929; June, 1930; and July, 1931, PENCIL POINTS; May and December, 1931, *Architectural Record*; November, 1930, *Architecture*. Also some issues of *Southern Architect* for 1929, 1930, and 1931. He also would like to purchase books on modern architecture at a reasonable price.

F. S. Onderdonk, 1331 Geddes Avenue, Ann Arbor, Mich., has the following for sale: *Architectural Record*, July, 1927; *Architecture* for July, October, and November, 1927, and December, 1932; *The Architect* for September and October, 1927, and August, 1928; *The Architectural Forum* for November, 1928/I, August, 1929/II, January, 1931/II; *The Western Architect* for November, 1927, and June, 1929; PENCIL POINTS for October, 1927.

Frederick H. Paulson, 64 Petteys Avenue, Providence, R. I., has for sale 27 issues of the *White Pine Series*, beginning with Vol. IV through Vol. X, including 6 competition numbers. Also 110 plates of American Face Brick Association brick details. Make reasonable offer.

D. P. Renton, 32 Banks St., Timaru, New Zealand, has the following books for sale: Monograph of *The Work of McKim, Meade & White* (student's edition, 2 vols.); *Selected Monuments of French Gothic Architecture* (PENCIL POINTS PRESS); *Perspective Delineation*, Boyd A. Gill; all like new.

Clarence Simonson, 546 Georgia St., Vallejo, Calif., has the following copies of PENCIL POINTS for sale at 25c per copy, plus postage: September, November, and December, 1922; January, March, April, October, November, and December, 1923; February, March, April, June, through December, 1924; January, February, March, April, and June, 1925; April, 1926; September, 1928.

Raymond J. Percival, 211 Washington Street, Forestville, Conn., would like to obtain Vol. 3, Nos. 1, and 4, of the *White Pine Series*.

L. B. Pope, Pratt Institute, Brooklyn, N. Y., would like to obtain the following copies of the *White Pine Series:* Vol. 1, No. 3; Vol. 2, Nos. 1 and 3.

PERSONALS

MORRIS ROTHSTEIN, ARCHITECT, has moved his offices from 186 Joralemon St. to 391 Fulton St., Brooklyn, N. Y.

CARLTON BRUSH, ARCHITECT, has closed his office in Nashville, Tenn., having accepted the position of Maintenance Engineer in the Service Division, Mortgage Loan Department, of the Prudential Insurance Co. of America, in the Jackson Bldg., Birmingham, Ala.

EMORY GLEN MORGAN AND DON M. CLIPPINGER, ARCHITECTS AND ENGINEERS, have formed a partnership, for the practice of architecture, with offices in the American Bank Bldg., Seattle, Wash.

P. B. KAPP AND D. E. KENNEDY, ARCHITECTS, have moved their offices from the Leitzell Bldg. to the Glennland Bldg., State College, Pa.

CARL CORNWELL TALLMAN, ARCHITECT, has moved his office from Williamsport, Pa., to 121 East Seneca Street, Ithaca, New York.

JAMES LLOYD BERRALL, ARCHITECT, has opened offices, for the practice of architecture, at 22 South Park Street, Montclair, N. J.

MANUFACTURERS' DATA WANTED

REQUESTS FOR manufacturers' literature have been received from the following:

EMORY GLEN MORGAN & DON M. CLIPPINGER, ARCHITECTS AND ENGINEERS, American Bank Bldg., Seattle, Wash.

P. B. KAPP & D. E. KENNEDY, ARCHITECTS, Glennland Bldg., State College, Pa.

OLIVER O. GAUVIN, ARCHITECT, Room 109, 160 So. Main St., Providence, R. I.

REED & WARREN, ARCHITECTS, P. O. 133, Cohasset, Mass.

NAT SEIDERMAN, draftsman and designer, 123 East 94th Street, Brooklyn, N. Y. (catalogs particularly on façade and interiors, also A.I.A. material).

HAROLD A. BRENNER, draftsman, 585 Bradford St., Brooklyn, N. Y. (for A.I.A. file).

STANLEY FLEISCHAKER, draftsman, 1654 Everett Avenue, Louisville, Ky.

HYMAN RUBIN, draftsman, 1010 Intervale Avenue, Bronx, N. Y.

MORRIS J. ZEITLIN, draftsman, 471 Chester St., Brooklyn, N. Y. (for A.I.A. file).

HERMAN MATTIG, draftsman, 5250 Brookpark Road, Cleveland, Ohio.

ROBERT J. WILSON, architectural student, 2031 Quintard, Anniston, Ala.

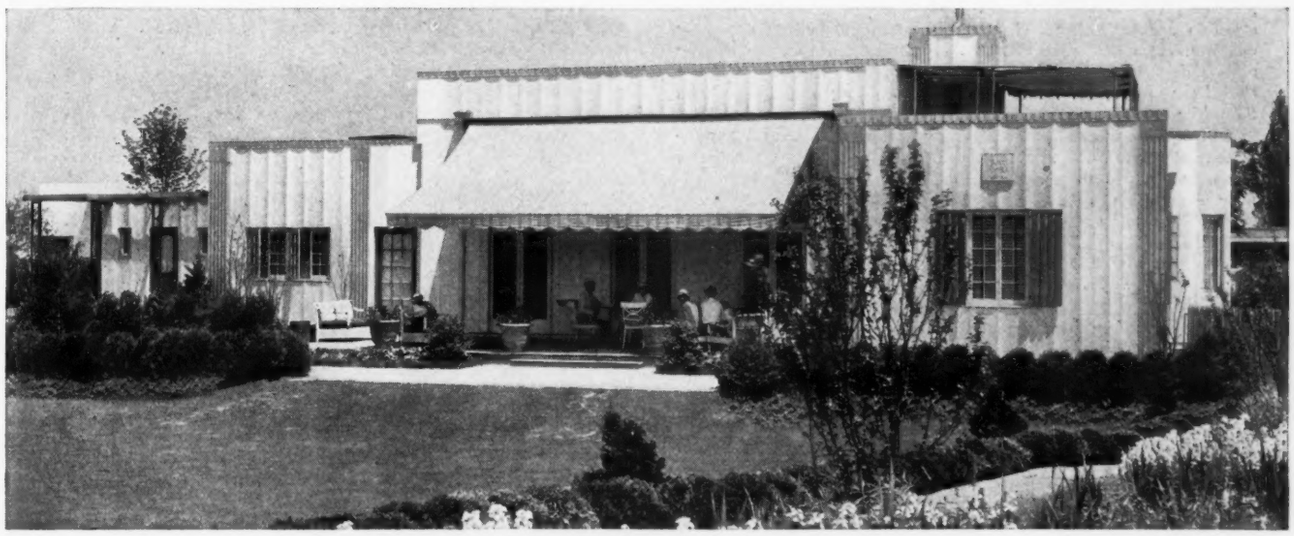
C. CRAMER ORMSBY, DESIGNER AND BUILDER, 29 La Salle Avenue, Buffalo, N. Y.

THADDEUS MAY, CONTRACTOR AND BUILDER, 511 Fillmore Avenue, Buffalo, N. Y.

F. E. WILLIAMS, JR., PLAN SERVICE WORK, c/o Fullerton Lumber Company, Baker, Montana.

EMPLOYMENT SERVICE ITEMS WILL BE FOUND ON PAGE 24, ADVERTISING SECTION

Preference is better than a prize



The W. & J. Sloane "House of the Today", like the majority of exhibits in the Home Planning Section at the Chicago World's Fair, is glazed with L·O·F Quality Glass. Corbett, Harrison, and MacMurray were the architects. The Still Construction Company, Chicago, were the General Contractors. The large decorative mirror, a Semon-Bache product made of L·O·F Polished Plate Glass, is an arresting example of the uses for glass in home furnishing.

No awards are being given, in Chicago, for the finest Polished Plate or Window Glass, but the products of Libbey·Owens·Ford have won an honor high above ribbons, medals or certificates of merit. They are used in the great majority of houses in the Home Planning Section, in which is exemplified the finest creative design of contemporary architecture. Surely, the significance of such a signal honor is apparent.

LIBBEY·OWENS·FORD QUALITY GLASS

LIBBEY·OWENS·FORD GLASS COMPANY, TOLEDO, OHIO, *manufacturers of Highest Quality Flat Drawn Window Glass, Polished Plate Glass and Safety Glass; also distributors of Figured and Wire Glass manufactured by the Blue Ridge Glass Corporation of Kingsport, Tennessee.*

Publications on Materials & Equipment

Of Interest to Architects, Draftsmen and Specification Writers

Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing them. When writing for these items please mention* PENCIL POINTS.

Jenkins Data Book on Valves.—Catalog No. 23, just published, covers 400 Jenkins valves, in a wide range of types and patterns giving complete details. All features of design and construction are fully described. Full information is given about the metals used in making the valves. Services, pressures, temperature and fluids for which the valves are recommended are stated. Included are many pages of engineering data. 264 pp. Jenkins Bros., 80 White St., New York, N. Y.

1933 Blue Book of Underfloor Distribution Systems.—A.I.A. File No. 31-c-62. Valuable reference book for architects and engineers devoted to the subject of Walker Alsteel-Preset underfloor distribution systems for modern office buildings and existing buildings to be modernized. The component parts are illustrated and described in detail as well as several typical installations. Specifications, layouts, installation directions and details, dimension data. 56 pp. 8½ x 11. Walker Bros., 30 Rockefeller Plaza, New York, N. Y.

Steel Framing for Small Residences.—A.I.A. File No. 13. New guide book specifically aims to provide architects and builders with convenient information on the safe, practical and economic use of steel in the framework of small residences. The new practices are explained and subjected to rule, and the manner in which they can be applied is exemplified. Detailed steps, drawings and photographs, show how the arrangement and sizes of all the steel members needed in framing a typical house may be easily determined. It also illustrates a number of framing systems composed either of standard structural shapes or of sheet metal, and presents for the first time a table that should be helpful in the design and computation of thin sheet metal sections. Safe load tables. 54 pp. 8½ x 11. United States Steel Corp., 71 Broadway, New York, N. Y.

Creo-Dipt "Bri-Tex" Reflecting Insulation.—New publication giving complete descriptive and technical information on a newly-developed reinforced fabric insulating material for roofs and sidings. Sample of product accompanies bulletin. 22 pp. 8½ x 11. Creo-Dipt Company, Inc., North Tonawanda, N. Y.

Kitchen Maid Cabinet Equipment.—A.I.A. File No. 35-c-12. Brochure illustrated in full colors showing a wide range of cabinet equipment for kitchens and pantries. Set of separate detail sheets are included. 12 pp. 8½ x 11. The Kitchen Maid Corporation, Andrews, Ind.

Buffalo Baby Conoidal Ventilating Fans.—A.I.A. File No. 30-d-1. Bulletin No. 475-C covers a line of electric conoidal fans for ventilating, exhausting, cooling and other purposes in industrial plants, stores, schools and public buildings of all types. 4 pp. 8½ x 11. Buffalo Forge Co., Buffalo, N. Y.

National Duroline Pipe.—Bulletin No. 28 describes the development, the methods of manufacture, mechanical strength, chemical and thermal properties and liquid-flow characteristics of a new pipe especially suitable for handling corrosive municipal and industrial waters, salt waters, drainage, chemical solutions, etc. Tables of weights, dimensions and test pressures. 16 pp. 8½ x 11. National Tube Co., Frick Bldg., Pittsburgh, Pa.

James P. Marsh Industrial Instruments and Heating Equipment.—A.I.A. File No. 30-a. New general catalog No. 68 illustrates and describes a complete line of gauges, valves, industrial and heating equipment. Roughing-in dimensions, capacities, etc. 60 pp. 8½ x 11. Jas. P. Marsh Corporation, 2073 Southport Ave., Chicago, Ill.

Chestnut for Distinctive Paneling.—A.I.A. File No. 19-a-21. New brochure explains how to obtain attractive installations of woodwork by the use of chestnut. Several installations of interior woodwork are shown, each produced by a different grade of chestnut lumber. Included are detail drawings and directions for obtaining the various effects. 8 pp. 8½ x 11. Appalachian Hardwood Manufacturers, Inc., 414 Walnut St., Cincinnati, Ohio.

Fabrication of Oxwelded Piping.—Valuable new handbook designed to provide for individuals concerned with the fabrication and erection of piping systems, the necessary data and procedures for the satisfactory use of oxy-acetylene welding and cutting in making pipe joints. It supersedes "Fabrication of Welded Piping Designs" published in 1929 and contains much new material on important developments in welding methods, fittings manufactured specially for welding into a piping system, and the welding of joints in cast iron and non-ferrous piping. Included is a discussion of the fundamentals of pipe welding technique. Indexed. 156 pp. The Linde Air Products Co., 205 E. 42nd St., New York, N. Y.

United States Air Conditioning Equipment.—A.I.A. File No. 30-d. Useful catalog for architects, heating and ventilating engineers covering a complete line of air conditioning equipment. Rating tables, dimension drawings, etc. 64 pp. 8½ x 11. United States Air Conditioning Corporation, Minneapolis, Minn.

Rundle-Spence Drinking Fountains.—Catalog N, just issued, lists and illustrates a complete line of sanitary drinking fountains and fountain accessories. Price list. 30 pp. 8½ x 11. Rundle-Spence Manufacturing Co., 445 North Fourth St., Milwaukee, Wis.

"S" Rotor Ventilators and Smoke Cowls.—Folder covering a line of ventilators and smoke cowls including a new type of ventilator which is a combination of a wind rotor and a special type of centrifugal fan. Capacities, sizes, prices. 4 pp. 8½ x 11. United States Ventilator & Power Corp., 184 Summer St., Boston, Mass.

Roddis Doors and Wainscoting.—New catalog with descriptive and specification data pertaining to the Roddis line of flush residence doors, X-Ray doors, ventilated doors, wainscoting and other plywood products. 12 pp. 8½ x 11. Roddis Lumber and Veneer Co., Marshfield, Wis.

Ilgattic Cooling and Ventilating System.—New publication describes in detail the operation, installation and advantages of a cooling and ventilating system for homes, office buildings, apartment houses, etc. Typical installations, diagrams, capacity tables. 30 pp. 8½ x 11. Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, Ill.

Belmont Interlocking Channel Floor.—Illustrated catalog with description and detail drawings covering a rolled structural steel interlocking channel floor suitable for industrial buildings, warehouses and for platforms, partitions, roofs, hangar doors, etc. 20 pp. 8½ x 11. Belmont Iron Works, 22nd St. and Washington Ave., Philadelphia, Pa.

New Hoffman Valve Price List.—New price list and series of four convenient bulletins containing descriptions, engineering data and illustrations of the complete Hoffman line of heating specialties. Hoffman Specialty Co., Waterbury, Conn.

New Alpha Automatic Humidifier.—Folder covering a new automatic humidifier for exposed or concealed home or office radiators and furnaces. Sizes, prices. Bon-Air Radiator Corp., 99 State St., Boston, Mass.

Campbell Air Conditioner.—New brochure announcing and describing the advantages of the Campbell all-year-round air conditioner and Maxim silencer room unit for use in the single office, bedroom or store. 16 pp. Campbell Metal Window Corp., 100 East 42nd St., New York, N. Y.

Reese Flexo-Seal Metal Weatherstrip.—A.I.A. File No. 35-p-6. Descriptive and specification data folder with detail drawings covering a line of weatherstrip equipment for steel hinged, projected and pivoted steel windows, for double-hung windows and self-adjusting interlocking equipment for casements and doors. 4 pp. 8½ x 11. Reese Metal Weatherstrip Co., 113-115 So. 10th St., Minneapolis, Minn.

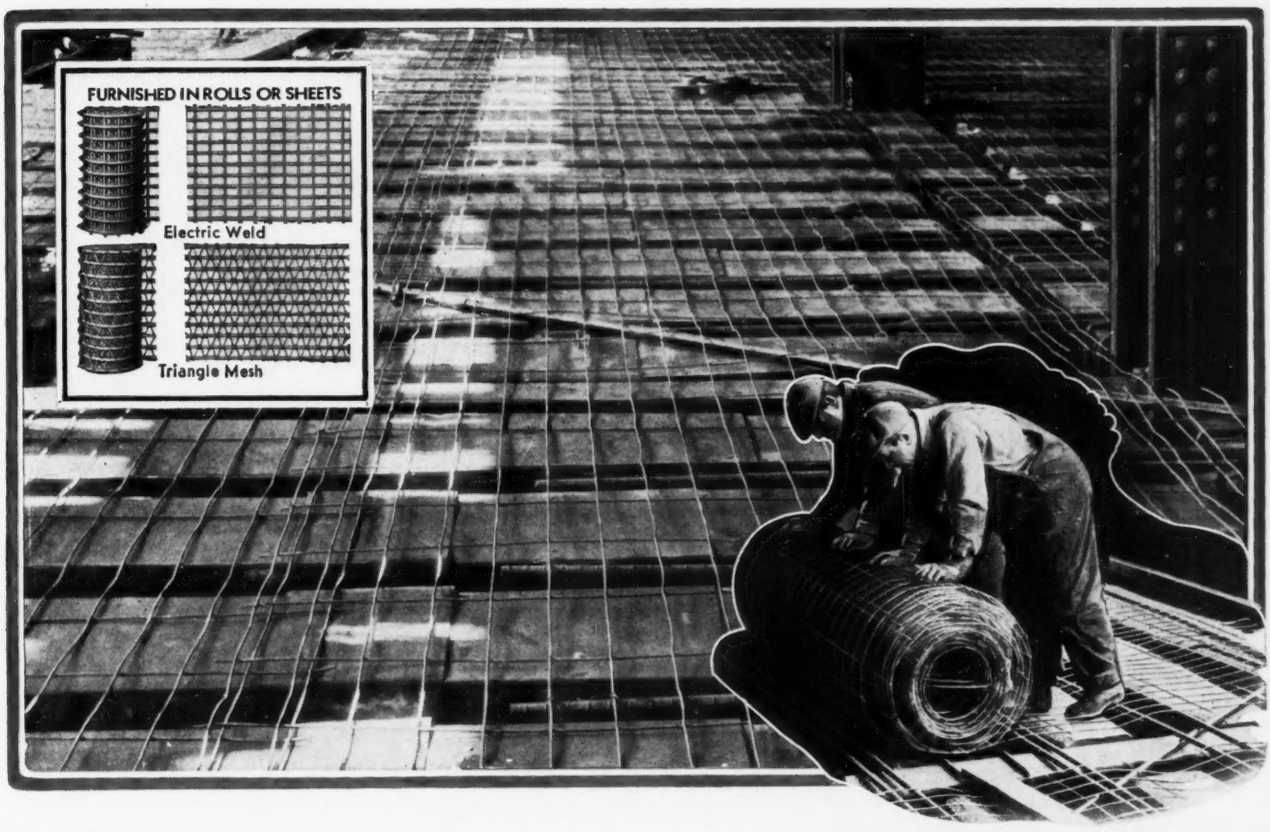
International Steel Heating Boilers.—A.I.A. File No. 30-c-14. Bulletin O describes in detail the construction of the type O boiler burner unit for providing house heating and domestic hot water. 4 pp. 8½ x 11. The International Boiler Works Co., East Stroudsburg, Pa.

Standard Sanitary Catalog Revisions.—Twentieth revision contains an entire and completely revised brass goods section which has been reduced considerably in its number of pages. Additional new sheets show the reserve line of Standard fittings. Standard Sanitary Mfg. Co., Pittsburgh, Pa.

Sturtevant Rexvane Forced Draft Fans.—Catalog No. 391 briefly describes the design and construction of a line of forced draft fans suitable to handle any low capacity forced draft or mechanical stoker applications. 12 pp. 8½ x 11. B. F. Sturtevant Co., Hyde Park, Boston, Mass.

Radi-Ion Air Purifying and Ionizing Equipment.—A.I.A. File No. 30-d-6. Folder with specification, engineering and installation data on Radi-Ion equipment suitable for operation with mechanical ventilating and air conditioning systems. 6 pp. 8½ x 11. Radi-Ion Corp., 54 W. Illinois St., Chicago, Ill.

Mercoid Automatic Controls.—Catalog No. H-8 covers a complete line of automatic controls for domestic and industrial oil burners. Construction and operation of each type is fully described. Specifications, tabular matter. 56 pp. 8½ x 11. The Mercoid Corporation, 4201 Belmont Ave., Chicago, Ill.



EXCEPTIONAL STRENGTH *plus* LOW INSTALLATION COSTS

BUILDING for quality is one thing—doing it at a reasonable cost is another. In Concrete Floor Arch Reinforcement—either cinder or stone—American Steel & Wire Company Wire Fabric offers exceptional economy and service advantages. First—it is made of Cold Drawn Wire—and this means exceptional strength through the close distribution of high yield point steel. Second—it is easy to handle, which results in low installation costs. Third—its superior quality is the result of over 100 years of wire making experience. Constantly uniform, and offering many other advantages that you will wish to know about in detail. Interesting information is available—and will be forwarded on request.

AMERICAN STEEL & WIRE COMPANY

WIRE FABRIC

THE STEEL BACKBONE OF CONCRETE

U.S. STEEL — SEE STEEL MAKING IN OUR EXHIBIT AT (CENTURY of PROGRESS)

1831 MORE THAN 100 YEARS of PROGRESS IN WIRE MAKING **1933**

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago
94 Grove Street, Worcester

SUBSIDIARY OF UNITED STATES STEEL CORPORATION
AND ALL PRINCIPAL CITIES

Empire State Bldg., New York
First National Bank Bldg., Baltimore

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

Export Distributors: United States Steel Products Company, New York

A Free Employment Service for Readers of Pencil Points

Replies to box numbers should be addressed care of PENCIL POINTS, 330 West 42nd Street, New York, N. Y.

Junior Partner Wanted: Established architect, New York and vicinity, 39, member American Institute of Architects, has opening for recent graduate as junior partner. Must have excellent financial and social connections. Box No. 1100, care of PENCIL POINTS.

Distributors Wanted: A splendid opportunity for right sort of man. One of the oldest manufacturers of air conditioning equipment is about to introduce the first and only automatic humidifier for cast iron or concealed radiators, likewise adapted for furnaces. Product lists at from $12.00 to $15.00. Exclusive territory arranged. Give full particulars in first letter. Box No. 1101, care of PENCIL POINTS.

Position Wanted: Five years' building material sales experience. Well acquainted with architects, contractors and builders in Metropolitan New York. Desirous of representing building material firm. Four years' study at Columbia University Extension in architecture and engineering. Also four years' architectural drafting experience. Age 29. Married. Box No. 1102, care of PENCIL POINTS.

Position Wanted: Graduate of a central European Technical University College of Architecture (Doctor of Technical Sciences). For past eight years instructor in the College of Architecture of a midwestern University where he taught history of architecture, author of a book on Concrete's Influence on Modern Architecture and of 26 articles, seeks position in an architect's office. Would prefer a firm which is executing buildings featuring architectural concrete. Thirty-nine years old, married, Native American. Box No. 1103, care of PENCIL POINTS.

Position Wanted: Thoroughly trained man with exceptional experience of many years. Specially experienced and qualified in supervision, specification work and office or field management. Best references furnished. Will go anywhere. Box No. 1104, care of PENCIL POINTS.

Position Wanted: Graduate architectural engineer. Ten years' experience with leading Chicago architects and engineers. Drafting, design and cost research, superintendence on wide variety of structures. Accustomed to dealing with clients and contractors. In responsible charge on a number of large projects. Solicit opportunity for personal interview and chance to furnish references. Married, age 31. Location immaterial. Box No. 1105, care of PENCIL POINTS.

Position Wanted: Architect (licensed in Illinois), young man, twelve years' experience, wishes to make connection with building material or specialties manufacturer as their representative in the Pacific Northwest. Box No. 1106, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, ten years' experience, college architectural and art training. Salary secondary. Box No. 1107, care of PENCIL POINTS.

Position Wanted: Graduate of Yale University in Architecture, age 34, six years' experience as designer, draftsman and supervisor on practically all types of buildings. Wishes position in architect's or builder's office. Box No. 1108, care of PENCIL POINTS.

Position Wanted: Young man, 29, single, desires employment as architectural or structural draftsman. Two and one-half years' office experience in Dayton, Ohio, and Boston, Mass., offices. Experienced in working drawings, full sized details, perspective sketches and renderings and model building. B.A. degree from Ohio Wesleyan and B.S. degree from Mass. Institute of Technology. One time student of School of Architecture, University of Penn. Will go anywhere immediately. Box No. 1109, care of PENCIL POINTS.

Position Wanted: Young man, 26, five years' experience, graduate Pratt Institute Architectural Construction. Some inside construction experience, also measuring existing buildings. Architect's or builder's office. Location immaterial, salary secondary. Box No. 1110, care of PENCIL POINTS.

Position Wanted: Young man, 28, desires position as architectural draftsman. Am a licensed architect of Illinois with 8 years' experience on small residences, industrial, commercial and public buildings. Married, reliable worker. References and specimen of work can be had upon request. Location—Chicago or vicinity. Salary secondary. Box No. 1111, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, 3 years' experience. Cooper Union graduate. Joseph Dalis, 2141 Prospect Ave., Bronx, N. Y.

Position Wanted: Young man, 23, graduate in architectural engineering, also 5-year degree in engineering from Kansas University. Prefers work leading to that of superintendent of construction. References. John A. Lippitt, Meadville, Missouri.

Position Wanted: Young man desires position in architect's office. Will do all the chores necessary in such an office. For the sake of learning the profession I am willing to work without salary for a start. One-year training at Cooper Union. Age 19. John Messner, 120 East 7th Street, New York, N. Y.

Position Wanted: Architectural and mechanical draftsman, assistant to superintendent in field, 25 years of age; College graduate, B. Architecture degree with major in construction and structural design; seven years' drafting experience. Willing to go anywhere. Minimum salary. William Ph. Tieder, 1411 Townsend Avenue, Bronx, N. Y.

Position Wanted: Young man, 22, desires position as junior draftsman in good architectural firm. High School graduate and two years' additional special course. Excellent references. Will enter Pratt Evening School this fall. Experience main incentive. Richard J. Beck, 57 Carlton Avenue, Jersey City, N. J.

Position Wanted: Junior architectural draftsman or office work. Graduate of Stuyvesant High School. Age 20. References. John Malfa, 941 East 221st Street, New York, N. Y.

Position Wanted: Engineering student unable to reenter college this fall would like to work in a drafting office for small wages in order to receive experience. Any city in the East is suitable. Donald P. Roberts, 1426 North 18th Street, Philadelphia, Pa.

Position Wanted: Young man, 20 years of age, two-year course in architectural drawing from Murray Hill Industrial High School. Architectural construction and details, isometric, perspective and rendering, also experience in lettering and tracing. Salary no object. Taking examinations for architectural class at Cooper Union in September. Harry Tobias, 2134 Vyse Avenue, Bronx, New York.

Position Wanted: Young man, age 19, graduate of four-year High School architectural training and now continuing study at Armour Institute in Chicago, desires position in architect's office as junior draftsman. Salary no object. Experience main incentive. Box No. 1112, care of PENCIL POINTS.

Free Lance Work Wanted: By designer with eleven years' experience in detailing and designing radio cabinets, store fixtures and fronts, interior woodwork, also special designs in the "Art Moderne" period for radio cabinets and furniture. Walter McKelvey, 502 Linden Street, Camden, N. J.

Part Time Work Wanted: Young lady who has had considerable experience in architectural work and general stenographic work would like specifications to type at home, also any other kind of stenographic work. Rates very reasonable and will be glad to call for and deliver work. Box No. 1113, care of PENCIL POINTS.

Position Wanted: Young man, well versed in architecture in all its branches, desires position in architect's or builder's office in the vicinity of New York. Box No. 1114, care of PENCIL POINTS.

Position Wanted: Registered architect would like position in any capacity. Has had own practice and is well versed in all branches of the profession. Will go anywhere and give excellent service for a modest living wage. At present in New York City. Box No. 1115, care of PENCIL POINTS.

Position Wanted: Architectural draftsman with excellent record desires position in any capacity. Willing to work for a modest living wage. Further information upon request. An interview would be sincerely appreciated. At present in New York. Box No. 1116, care of PENCIL POINTS.

Free Lance Work Wanted: Architecturally-trained man desires work either part time or will take full time position. Can make full set of drawings from sketches to finished job, also design lighting fixtures and interiors, etc. Box No. 1117, care of PENCIL POINTS.

MODERNIZE with a CUTLER MAIL CHUTE

Expected as a matter of course in the modern office building or apartment.

It guarantees to the tenant up-to-date service and saves the owner its cost in reduced elevator operation.

Full information, details, specifications and estimates on request.

CUTLER MAIL CHUTE CO.
General Offices and Factory
ROCHESTER, N.Y.

this book

shows various types and sizes of cold storage doors and windows designed for the modern brewery. For three decades, Jamison Doors and Windows have set the standard for the brewing industry—this book shows why. Sent promptly at your request.

See our catalog in Sweet's

JAMISON COLD STORAGE DOOR CO., HAGERSTOWN, MD.
Oldest and Largest Makers of Cold Storage Doors in the World

Branches and Agents in:
New York, Chicago, Philadelphia, Atlanta, Cleveland, Cincinnati, Detroit, Kansas City, Los Angeles, Minneapolis, Omaha, St. Louis, Salt Lake City, San Francisco.

Jamison & Stevenson Cold Storage Doors

For lasting results GOHI Sheet Metal

A PURE iron-copper alloy, GOHI Sheet Metal is unusually resistant to rust and corrosion. It lasts for years and years, with the very minimum of upkeep and repairs.

At the same time, it is easy to work, thus reducing fabrication costs.

For low first cost as well as low last cost, for maximum life and usefulness, specify GOHI Sheet Metal wherever sheet metal is used.

THE NEWPORT ROLLING MILL CO.
Newport, Kentucky

GENUINE OPEN HEARTH IRON GOHI PURE IRON - COPPER ALLOY

GOHI
PRONOUNCED "GO-HIGH"
SHEET METAL

★ *Write for your copy of the GOHI Architect's Specification Book—a practical manual crammed with useful information and pictures of GOHI installations. It's FREE.*

Announcements of New Products, Changes in Personnel, etc.

ALUNDUM RUBBER BONDED SAFETY TREADS

An entirely new type of safety tread that is especially suitable for use in school buildings, department and chain stores, office buildings, industrial plants, hospitals, hotels and similar structures has just been placed on the market by the Norton Company, of Worcester, Mass.

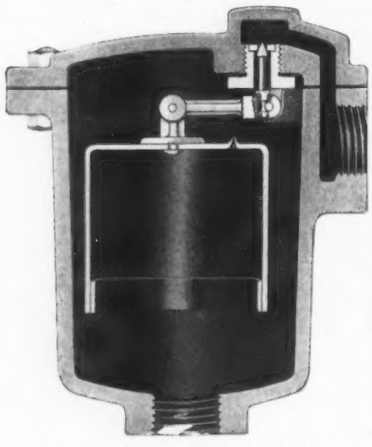
Designated as the Alundum Rubber Bonded Safety Tread this new product is composed of alundum aggregate securely bonded in a reinforced base of hard, tough rubber.

An important feature of this new tread is that it is non-slip even at the very nosing edge, for it is at the nosing that the foot pivots when one is descending a stairway. It is not affected by weather conditions and its non-slip effectiveness is not lessened by water. Thus it is suitable for use in exposed locations out of doors as well as indoors. The tread is supplied in units of various lengths and widths and can be placed directly over old wood, steel, concrete or stone steps.

NEW INVERTED BUCKET STEAM TRAP

The James P. Marsh Corporation, Chicago, Ill., has recently added to its line of heating equipment the Marsh No. 500 steam trap of the inverted bucket type for installation on all classes of hospital and kitchen equipment or any similar service where considerable volume of condensate is to be handled. The trap is self-venting which feature, combined with the large water capacity, permits, it is stated, high efficiency of the apparatus upon which it is installed.

The trap is simple in construction and operation. The motive element is an inverted seamless open bucket operating through a cast brass lever arm to open and close the swivel valve pin.



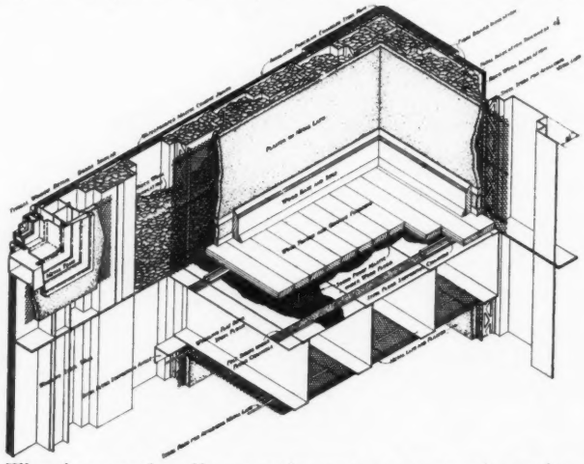
The trap discharges intermittently. Between cycles of operation the float is in the raised position being filled with steam and air and the valve pin is closed against the seat. As condensate rises in the trap body, the weight of the water forces the steam and air out through the vent opening in the top of the float, filling float with water which causes it to drop. When the condensate has drained from the trap, it fills with steam causing the float to rise once more and the valve pin to close against the seat. The trap is suitable for working pressures up to 125 lbs. per square inch.

A NEW TYPE OF PORCELAIN ENAMELED STEEL HOUSE

A new type of steel house with porcelain enameled exterior and embodying pre-fabricated principles is announced by the Wheeling Corrugating Co., subsidiary of the Wheeling Steel Corp., Wheeling, W. Va.

Included in the construction of the first of these new type homes, developed in cooperation with Charles Bacon Rowley and Associates, Inc., architects, and being erected in Wheeling, are pre-fabricated units also newly-perfected steel wall and floor sections.

The foundation walls and footings of the new Wheeling house are of the customary masonry type. The walls of fabricated sheet steel are firmly fastened to a sill plate by welding and the sill plate is anchored to the masonry.



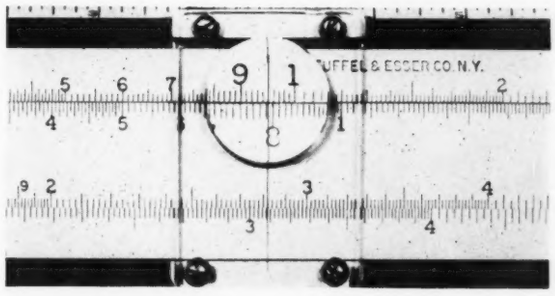
The sheet steel walls not only serve as structural members but provide a base or ground to which the outside and inside finishes are applied. Floors are of sheet steel so fabricated that they may be laid quickly and produce a flat steel deck over which a wooden floor may be laid as the final floor finish. Inside finish of the walls and partitions consist of plaster on metal lath supported by the Wheeling Corrugating Company's patented steel studs which take the place of the customary 2 x 4's. Ceilings are plastered on metal lath secured to the underside of the steel floor sections.

The outside surface of the residence consists of steel sections, or plates, ½″ deep, thoroughly coated with porcelain enamel and then filled with a fibrous insulation. Joints between the plates are pointed with an elastic cement colored to blend with the porcelain enamel.

The stairways are of steel construction with wood treads and risers. The windows are of heavy section steel, casement type with copper screens. All doors are of flush 1¾″ type of wood. Door frames, window frames and trim are of steel and decorated with enamel to harmonize with the woodwork. Due to the construction of the sheet steel walls mineral or rock wool is securely packed 4″ thick so as to fill all voids. This wool also extends over the ceilings directly under the roof.

A NEW SLIDE RULE MAGNIFIER

A new slide rule magnifier, known as the Slip-Lens, has recently been placed on the market by the Slip-Lens Co., 15 Charlton St., New York. It is easy to use, works by suction and requires no complicated means of attachment. The Slip-Lens is designed to fit any slide rule and to cover only one scale at a time, thus leaving the other scale entirely free for rapid, rough calculations.



Made of the best optical glass, the Slip-Lens has a magnifying power of approximately two diameters. It will prevent eye-strain and is said to double the speed and accuracy of all slide rule work.

NEW INCINERATOR FOR SMALL HOMES

In the recently perfected Model T Kernerator, the Kerner Incinerator Co., Milwaukee, Wis., is offering a new incinerator especially designed for installation in small homes. Its compact design confines it to a very small space in the basement.

The Model T Kernerator is revolutionary in design since the air for combustion is fed downward and impinges directly onto the surface of the burning waste, instead of being fed from below the grates, which was heretofore the usual method. This is accomplished by a jet of air introduced into the incinerator around the gas burner, located above the fire door. When the burner is in operation this jet forms a column of air around the flame—developing an intense degree of heat and adding considerable length to the flame.

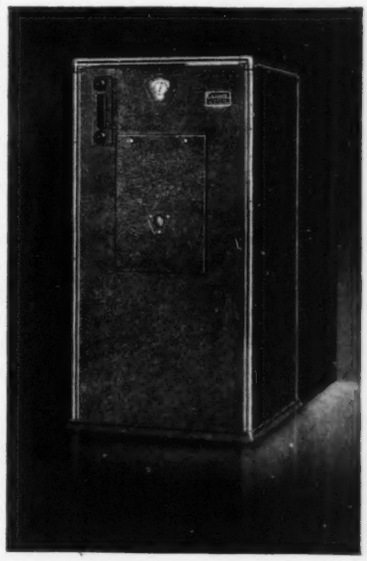
It is not necessary to use the burner under normal conditions, but should the material on the grates contain an abnormal amount of moisture, the burner is lighted and the material on the grates consumed to a dry ash in a short time.

Announcement is made by Louis Kuehn, president of the Milcor Steel Company, of the appointment of Thomas O'Neil as manager of the New York office. Mr. O'Neil will be in charge of the eastern district.

THE CAPITOL OIL BURNING BOILER

In line with the recent trend of combination oil burning boiler units, the United States Radiator Corporation, Detroit, Mich., has introduced a cast iron boiler designed for oil burning and suitable for replacements as well as new homes.

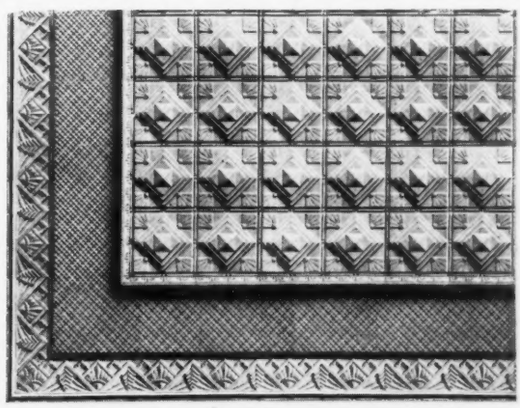
The Capitol Oil Burning Boiler is furnished in two sizes, with steam capacities of 500 and 700 sq. ft. of direct cast iron radiator load and water capacities of 800 and 1200 sq. ft. of direct cast iron radiator load. The steam boiler is equipped with a low water cutoff, a built-in Taco domestic hot water heater, and is designed for use with standard oil burning controls.



The boiler is said to develop high efficiencies. These are obtained due to the direct relationship between the flue areas, the heating surfaces and the controlled direction of the flow of the gases. The smokehood temperatures are extremely low. The gases change direction of flow seven times in going through the boiler. The possibility of stratification of gases is removed. The boiler has large reserve capacity, and the ratings provide for sufficient reserve capacity to raise the temperature of the domestic hot water from 50° to 150° F. in three hours.

NEW MODERNISTIC STEEL CEILING DESIGN

The Edwards Manufacturing Co., Cincinnati, O., has added to its line of metal ceilings a new modernistic pat-



tern with which it is now possible to secure the most striking effects in color combinations without employing costly decorators. It is a design of line and plane, which, it is stated, harmonizes well with present-day architecture and interior decoration.

C. V. Haynes, long associated with the Hoffman Specialty Company as vice president, will devote more and more of his time to research work for the company. Mr. Haynes is vice president of the American Society of Heating and Ventilating Engineers and his work in the heating field is well known. The Hoffman Specialty Company also announces that M. C. Gillette of Philadelphia has been appointed zone manager for the southeastern states.

Index to Advertisers

Advertising Office: 330 West 42nd Street, New York, N. Y. Philip H. Hubbard, *Vice Pres. and Adv. Mgr.*
District Offices: 706 Straus Building, Chicago; 703 Market St., San Francisco

American Brass Company 25
American Sheet & Tin Plate Company 7
American Steel & Wire Company 23
American Telephone & Telegraph Company 9
Atlantic Terra Cotta Company, The 1

Beaux-Arts Institute of Design 32
Bommer Spring Hinge Company 7
Book-Cadillac Hotel 28
Brown Company 37

Cabot, Samuel, Inc. 7
Corning Glass Works 14
Cutler Mail Chute Company 33

Dietzgen, Eugene, Company 29
Dixon, Joseph, Crucible Company 19
Duriron Company, Inc., The 2

Eagle-Picher Lead Company 3
Eberhard Faber Pencil Company 12

Faber, A. W., Inc. 29

General Electric Company, Air Conditioning Dept. 27
General Electric Company, Merchandise Dept., 3rd Cover
Gillespie Brothers, Inc. 36
Gillott, Joseph, & Sons, Ltd. 6

Higgins, Chas. M., & Sons 36
Hope's Windows, Inc. 6
Hotel William Penn 6

International Nickel Company ..... Back Cover

Jamison Cold Storage Door Company 33
Jones & Laughlin Steel Corporation ..... 2nd Cover

Libbey-Owens-Ford Glass Company 21

Newport Rolling Mill Company, The 33

Portland Cement Association 4

RCA Victor Company, Inc., Centralized Sound Section 28
Republic Steel Corporation 38
Rixson, Oscar C., Company, The 32
Ruberoid Company, The 31

Sargent, J. D., Granite Company 32
Scovill Manufacturing Company 8
Stevenson Cold Storage Door Company 33
Superior Sheet Steel Company 28

Universal Atlas Cement Company 10

Vonnegut Hardware Company 5

Wilson Engineering Corporation 32
Wood Conversion Company ..... Back of Frontispiece

HIGGINS' INK HINTS
A SERIES OF SUGGESTIONS BY ARTHUR L. GUPTILL
Athens
Choragic Monument of Lysicrates
YOU NEED ONLY
– a bottle of Higgins' Waterproof Black Drawing Ink — also a bottle of Higgins' General Black Drawing Ink (soluble).
– one or two brushes about this size
– some water color paper, fairly rough.
1 SKETCH THE SUBJECT IN PENCIL.
2 PAINT DARKEST TONES IN BLACK WATERPROOF INK, DEPEND ON BRUSH.
3 PAINT THE GRAYS IN "GENERAL" INK, DILUTING IT WITH WATER TO DESIRED TONE. HANDLE LIKE ANY WASH.
4 TOUCH UP WITH A BIT OF "DRY BRUSH" FOR TEXTURE, IF DESIRED.
Ever Sketch with Brush and Ink?
IF YOU HAVEN'T, YOU'VE MISSED A LOT OF FUN, BESIDES OVERLOOKING ONE OF THE FINEST CHANCES TO DEVELOP AN INDIVIDUAL TECHNIQUE . . . IT'S THE QUICKEST METHOD OF SKETCHING, TOO . . . RICH, FULL-TONED EFFECTS, IDEALLY INTERPRETING BRILLIANT SUNSHINE AND MYSTERIOUS SHADOW, ARE OBTAINABLE IN A FEW MINUTES WITH MINIMUM EFFORT.
GREAT FOR OUTDOOR WORK! IDEAL FOR TEXTURE PORTRAYAL!! VALUES EASILY OBTAINED! NO SMUDGING! TRY IT! NOW! TODAY!
CHAS. M. HIGGINS & CO. INC.
271 NINTH ST. BROOKLYN, N.Y.
SEND FOR OTHER SHEETS OF THIS SERIES - GLAD TO MAIL THEM TO YOU

PENCIL POINTS

PRINTED BY

The Gillespie Bros., Inc.

THE GILLESPIE BROS INC
STAMFORD CONN

STAMFORD, CONN.

Magazines, Catalogues, Monographs, Books, Annuals and all forms of HIGH GRADE PRINTING